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THE UNIVERSITY OF ALBERTA

THE STATUS OF INSTITUTIONAL RESEARCH IN CANADIAN BIBLE COLLEGES

BY

LUDWIG PAUL SAWCHENKO

A THESIS

SUBMITTED TO THE FACULTY OF GRADUATE STUDIES

AND RESEARCH IN PARTIAL FULFILLMENT OF THE

REQUIREMENTS FOR THE DEGREE OF

DOCTOR OF PHILOSOPHY

DEPARTMENT OF EDUCATIONAL ADMINISTRATION

EDMONTON, ALBERTA

SPRING, 1991

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The undersigned certify that they have read, and recommend to the Faculty of Graduate Studies and Research for acceptance, a thesis entitled "The Status of Institutional Research in Canadian Bible Colleges" submitted by Ludwig Paul Sawchenko in partial fulfillment of the requirements for the degree of Doctor of Philosophy.

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Date: November 30, 1990

Dedicated to my mother, Agnes and my late father, Benjamin who raised me with the view of an old Russian proverb which stated that, "to be educated is to have light but to be uneducated is to walk in darkness."

ABSTRACT

The purpose of this study was to determine the status of institutional research in Canadian Bible colleges. Fourty-five institutions were surveyed by questionnaire. Administrative personnel from twelve colleges were interviewed. The literature supported such a study. It provided the added view that smaller postsecondary institutions were facing difficult times and those institutions would need the benefit of institutional research to respond to conditions similar to those faced by larger institutions but with fewer resources. The uniqueness of smaller colleges and their resilience were seen as positive factors for those institutions in facing severe challenges of long-term survival.

Data were collected using a questionnaire consisting of five sections. Survey instrument sections included general institutional information, questions arranged by the conceptual framework (operating, analytical, forecast reports) and a final open-ended section. Interviews were conducted according to a semi-structured interview instrument, also based on the conceptual framework in order to probe more deeply. An analysis of the data by conceptual framework categories and institutional age, governance, size and location was completed. The status of institutional research in Canadian Bible colleges was determined. A number of conclusions and implications were generated from the data concerning the status of institutional research conducted in Canadian Bible colleges.

The findings and conclusions from the study indicated that Canadian Bible colleges conducted institutional research in all areas identified by the conceptual framework. Institutional research was conducted selectively

due to resource constraints, usually by senior administrators who also initiated that research. Larger and denominationally governed institutions conducted more institutional research in all areas than did other Bible colleges.

Resource allocation for institutional research was often prompted by institutional distress or externally required self-study. Consequently, it was found that Bible college administrators would benefit from certain interinstitutional studies, specialized consultants and external funding for conducting institutional research.

Implications of this research were identified and may be applied to many persons involved in Bible college administration. Groups identified included Bible college presidents, college boards, presidential search committees, those pursuing a career in Bible college administration and graduate school program officers who prepare students for higher education administration. Canadian Bible colleges, as smaller postsecondary institutions, require institutional research activities for decision-support as they face an uncertain future.

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CHAPTER 1

INTRODUCTION

Postsecondary education systems in Canada serve a diverse and changing clientele. Students may pursue educational opportunities for self-development, employment preparation, variety in programs of learning and for practical and scholarly research. Postsecondary education opportunities are provided by governments who in turn have extended this responsibility to either publicly funded or privately funded institutions. A variety of program choices are offered regionally through universities, community colleges, private universities and colleges and technical institutes. Beyond program differences, these institutions utilize various teaching strategies, financial assistance schemes, student services, recreational options and social events to serve their diverse and changing student clientele.

CONTEXT OF THE STUDY

Bible colleges are a distinct part of Canada's postsecondary educational system. They enrolled over 10,000 students in 50 institutions situated in eight provinces of Canada during the 1988-89 academic year. Canadian Bible colleges, in Witmer's (1970:2) view, are postsecondary educational institutions which prepare young adults for christian ministries through a program of biblical and practical training. According to Gazard (1980:24), Bible colleges build their academic programs around a compulsory major in Bible studies

and professional education to prepare their graduates for specialized vocations in some area of christian ministry.

Canadian Bible colleges were developed over a one hundred year period of time, beginning in 1894 with the Ontario Bible College in Toronto, and now enroll thousands of students in eight provinces. Some Bible colleges are unaffiliated with any church organization while others maintain close organizational ties with particular religious denominations. Their constituencies consist of alumni and a group of churches defined by denomination or geographic region. Witmer (1970:26) stated that Bible colleges selected their academic emphases based on the expressed needs of their constituencies. Canadian Bible colleges grant diplomas or degrees to their graduates. These programs are dominated by biblical studies and include up to 35 percent of course requirements in general education. Some Bible colleges have negotiated articulation and affiliation agreements with universities. These arrangements provide students with greater mobility through credit transfer possibilities within the larger higher education context of Canada.

The Bible college, like other institutions of higher education, did little until recently in the way of assessing its efforts and studying its own operations and problems. One university president (Stickler, 1961:542), referring to administration of postsecondary institutions during the middle decades of this century, stated, "In those days, institutions of higher learning could fly by the seats of their pants." No longer is this the case. According to Roueche and Baker (1972), the entire institutional community including the board, the president, the administration, faculty and students, has become accountable to the external community served by the educational institution for the effectiveness of the educational program.

Canadian Bible colleges and their American counterparts must respond to many of the same questions that all of higher education is forced to address. Eagen's (1980) stated distress was that American Bible colleges are ill prepared to make effective decisions in a rapidly changing world. The preparedness of the Canadian Bible college in responding to its environment will become evident through this study of institutional research practices.

PURPOSE OF THE STUDY

The purpose of this study was to determine the status of institutional research in Canadian Bible colleges. The following sub-problems guided the research:

1. Identify the nature and extent of institutional research activities in Canadian Bible colleges.
2. Identify the perceived importance of institutional research activities for college programs by senior administrators of Canadian Bible colleges.
3. Determine the personnel who direct institutional research in Canadian Bible colleges.
4. Determine the organizational arrangements for institutional research in Canadian Bible colleges
5. Determine the extent of financial commitment to institutional research in Canadian Bible colleges.
6. Examine the effect of institutional age, governance, size and location on perceptions of the status of institutional research in Canadian Bible colleges.

SIGNIFICANCE OF THE STUDY

The need for improved management in times of constraint prompted interest in this study. Small colleges, according to Baldridge and Tierney (1980:581), are similar to larger ones with respect to problems faced and the strategies used to solve these problems. Those aspects of small colleges which make them unique, especially privately funded colleges, heightened rather than reduced the severity of problems encountered, in Baldridge and Tierney's view. Astin and Lee (1972) identified a group of American colleges as "invisible colleges." The "invisible colleges" were generally smaller institutions that enjoyed only regional support. They included rural colleges, black colleges, religious colleges and narrow curriculum or special purpose colleges. Referring specifically to smaller institutions, Stickler (1961) stressed the importance of institutional research, explaining that institutional research activities were effective in any size institution.

Astin and Lee (1972:23) stated that the Bible colleges needed help to survive. Eagen (1980) found that the planning practices in accredited American Bible colleges were generally poor and in need of better coordination with administrative decision-making. Greenberg (1975), whose landmark study reported on the institutional research practices of community colleges in the United States, suggested that those institutions were under severe financial constraint.

Canadian Bible colleges have not been studied extensively. Recently, several researchers have investigated areas of Bible college operation that include environmental relations (Weinhauer, 1979), credit transfer arrangements (Gazard, 1980), governance (Rose, 1981) and music curricula

(Thiessen, 1985). This study will seek to determine the status of institutional research practices in Canadian Bible colleges.

From a theoretical perspective, this study will use a conceptual framework (Figure 2, page 38) developed for institutional research activities by Bernard Sheehan (1972). The study will determine the extent to which institutional research activities in Canadian Bible colleges are consistent with the Sheehan model, referred to as an Hierarchy of Information Systems.

From a practical perspective, findings could influence greater awareness and utilization of more sophisticated institutional research practices in Canadian Bible colleges. Since Canadian Bible college administrators are aware of Eagen's (1980) study of American Bible colleges, this study, focussed on Canadian colleges, could serve as an encouragement to extend institutional research activities into more areas of Bible college decision-making.

The Bible colleges in Canada serve approximately 5 percent of postsecondary students enrolled in the higher education systems of Canada. This study will provide information about a group of colleges that are little known in Canadian higher education. According to Gazard (1980:31), though few in number and generally small in enrollment, these colleges have demonstrated a resilience to changing environmental conditions. Gazard pointed out that during a time of serious economic and social uncertainty, thirty-two Bible colleges were established from 1918 to 1949 in Canada. The current context of postsecondary education in Canada has certainly affected the Bible colleges which draw upon the same traditional student pool as do public institutions, but do not benefit from public funding.

Studies of the status of institutional research in larger institutions of higher education have generally been abandoned in the United States where

rather sophisticated institutional research practices have become commonplace. The most recent Canadian studies were conducted by Hillman in 1982 and Shale and Gomes in 1990, who surveyed institutional research practices in all Canadian universities. Several American studies of the status of institutional research have concentrated on particular groupings of colleges such as two-year community colleges (R. Barnes, 1981; Bielen, 1974; Broderick, 1973; Greenberg, 1975; Neill, 1975). Some studies have focussed on a specific segment of the two-year colleges, such as colleges in one state (Larkin, 1973: Zemaitis, 1982), a regional group of states (G. Barnes, 1975), or rural colleges in the Southwest (Chalker, 1980). This study of Canadian Bible colleges was consistent with similar studies completed in the United States.

LIMITATIONS

This study was limited by the form and content of the survey instrument and interview procedures. The survey questionnaire was generally organized by the categories suggested in Sheehan's (1972) conceptualization of institutional research practices. The interview guide was developed with the intention of clarifying responses to items included in the survey instrument and enriching the researcher's knowledge of institutional research practices in Canadian Bible colleges. The choice of study group, namely Canadian Bible colleges, limited generalization of findings to other similar postsecondary institutions. The absence of similar Canadian studies made it difficult to compare the findings to other research. The perspectives of the presidents from their place in the institutional decision-making hierarchy influenced their responses. Clearly, presidents of postsecondary education institutions give

leadership to organizational activities but many activities are delegated to various personnel who conduct research and make decisions. Presidents of smaller institutions tend to be more involved with operational activities than their counterparts in larger postsecondary enterprises. It was the greater involvement by smaller college presidents which influenced the researcher to survey and interview Bible college presidents whenever possible. The time, distance and expense involved in conducting this study limited the collection of data to the use of a survey instrument and a followup interview with presidents or senior administrators of twelve institutions.

DELIMITATIONS

This study was delimited to Canadian Bible colleges. The study focussed on the institutional research practices of Canadian Bible colleges. It dealt with what was done, not how it was done. The research included perceived importance of institutional research activities as viewed by senior administrators. The population for the study was limited to colleges holding membership in the Association of Canadian Bible Colleges. Respondents chosen were senior administrators who would likely not be the only consumers and producers of institutional research in their colleges.

ASSUMPTIONS

A basic assumption was that knowledge of and influence over the conducting of institutional research was held by senior administrators of Bible colleges. It was also assumed that data gathered by means of questionnaires and focussed interviews were valid and reliable. Though individual

perceptions and the reporting of such perceptions may be subject to error, it was assumed that information provided by the respondents was accurate.

ORGANIZATION OF THE THESIS

This chapter introduced the context of the study, the purpose, the significance, the limitations, the delimitations and the assumptions. Chapter 2 presents a review of literature and research related to the study, including the conceptual framework. Chapter 3 describes the research design and explains the methodology used in data collection and analysis. Chapters 4 and 5 present the results of the study along with a discussion of the findings. The final chapter provides a summary of the study, conclusions and implications for practice and further research.

CHAPTER 2

REVIEW OF RELATED LITERATURE

The purpose of the literature review was to provide a context for this study in relation to higher education administration and institutional research. The literature review includes topics such as accountability, institutional research as a field of endeavor, planning, decision-making, Bible college history and the conceptual framework. Four areas of literature that relate to institutional research practices in Canadian Bible colleges are discussed in this chapter: (1) the postsecondary context; (2) Bible colleges in Canada; (3) institutional research in higher education; and (4) research of institutional research.

INTRODUCTION

Accountability requires that an organized system by which a college collects information and evaluates itself is necessary to help administrators manage the affairs of the institution. Institutional research, according to Peterson (1985), has served higher education institutions by finding ways to improve various areas of operation. Peterson (op cit., p.5) further specified that "In the late 1960s the dominant issue was governance. In the early and mid 1970s, educational issues were primary." Institutional research responded well in meeting needs during a time of institutional growth or stability. Conditions in higher education facing the field of institutional research are

very different in the late 1980s. Many institutions are suffering enrollment declines in traditional study areas and financial constraints. Institutions must face extensive and substantial challenges simultaneously in their environments, according to Peterson, and institutional research must continue to adapt.

The complexities facing postsecondary education institutions together with the widely documented information explosion, literally invite institutional researchers to give meaning to the conditions facing administrators and faculty. Some years ago, Dressel (1971:15) accurately described this situation, "Administrators suddenly aware of these complications find themselves confronted with inadequate management information systems and procedures for institutional study and with highly charged demands for immediate action." The forces which are shaping and complicating higher education can be more adequately understood and dealt with through institutional research. Thirteen years later, Jedamus (1984:77) accused higher education administrators of largely ignoring the extensive resources available through institutional research as a decision-support system. According to Sprague and Carlson (1982:28), decision-support management has emerged where administrators have realized the potential of computer coordinated information and understood the array of models that can serve the decision maker.

Richard Heydinger (1985) suggested that to anticipate the involvement of institutional research in the management of higher education, a consideration of forces affecting the future of postsecondary education itself was necessary. Heydinger (op cit., p.39) cited several forces:

> . . . a changing youth cohort, an aging faculty, a rapidly changing technology base that demands unprecedented amounts of new equipment, a revolution in telematics and information systems, a rapidly decreasing half-life for career obsolescence and a growing recognition by society of the relationship between economic development and the quality of education and scholarship.

Assuming that colleges and universities are loosely coupled organizations (Weick, 1978), they ought to be able to adapt to change better than more rigidly structured organizations. Historically, however, "higher education institutions have changed slowly, almost imperceptibly if not belatedly and always reluctantly," in the view of Frederick Rudolf (1962:491). The external environment will place new demands on postsecondary institutions and the consequence will be that institutional administrators will seek more and better information from institutional research offices.

The remaining sections of this chapter will include perspectives on the postsecondary context, Bible colleges in Canada, institutional research in higher education, research of institutional research activities and on the conceptual framework.

THE POSTSECONDARY CONTEXT

The context of postsecondary education systems includes a declining traditional student pool, scarcity of resources offered by governments and interested constituents, and societal pressure for more efficiency in operating the institutions. These conditions have forced postsecondary institutions to change their operations. Terms such as retrenchment, contraction

management and strategic planning have been used to describe these efforts of postsecondary administrators. Postsecondary education administrators have turned to institutional research for assistance in developing decision alternatives. The Association of Institutional Research (1976:3) described institutional research in this way:

> It is a multidisciplinary profession that draws on the relevant techniques and insights of modern management science and educational psychology, welding them into a new analytic approach to institutional governance and the general problems of higher education.

William Tetlow (1979) traced internal institutional study back to the founding of Laval University in 1634, Harvard College in 1636 and Yale University in 1701. Tetlow asserted that studies across institutions began with Columbia University's study of enrollment patterns of ten colleges in 1866. The survey era, which produced student demographic and program effectiveness studies from 1908-1943, was launched through impetus given from John D. Rockefeller and Andrew Carnegie who felt that changes were needed within universities. Bureaus of institutional study were founded in many American universities, including the University of Minnesota, Ohio State University, the University of Michigan and the University of Illinois during the 1920s and 1930s. Modern day institutional research resulted from a grant of $375,000 in 1956 given to the American Council on Education by the Carnegie Corporation. The Association for Institutional Research (AIR) emerged in 1960 from activity undertaken in the late 1950s and has resulted in international involvement for its members. AIR has served as the professional association of institutional researchers.

Institutional research served higher education well during the expansion years from the 1950s to the mid 1970s. Recently, the efforts of institutional research have focussed on institutional change strategies necessitated by changing environmental conditions. Large and small postsecondary education institutions have been faced with similar challenges. The availability of microcomputers has placed the most advanced tools of institutional research at the disposal of smaller postsecondary institutions. This asset will aid smaller institutions of higher education in facing an uncertain future with more confidence and provide the likelihood of improved decision-making.

Colleges and universities are complex organizations, characterized by hierarchical systems, rules and regulations, formal channels of communication and areas of routine decision-making according to Heydinger (1980:95). Unlike some organizations, postsecondary education institutions evidence non-routine technology, interest in decision-making by clients served, unclear goals, and internal institutional professionals who seek some control over decision-making processes. The environment within western society for institutions of higher education has placed particular pressures upon these institutions. Scarce resources, demands for accountability, and information overload are three aspects that characterize the higher education environment.

Planning in Higher Education

Conditions facing postsecondary education during the 1980s call for "institutional planning styles that are more comprehensive, more systematic, more public, more regular and more expansive," according to Heydinger (1980:97). The need for "more" in each planning characteristic is heightened during this time of retrenchment and reallocation, terms popularized since the late 1970s. Heydinger (op cit., p.106) defined more comprehensive planning

as the consideration of all possible choices among competing alternatives in a contracting environment. More systematic and more regular planning referred to the pressure exerted by continually expanding technological advances that must be considered as they become available. A priority of goals can then guide the planning in assessing for potential productivity. Random or crisis-oriented planning cannot keep pace with current technological development. Heydinger (1980:107) asserted that, "With growing distrust of organizational leaders and the need to cut back on program size, there is mounting pressure to reveal the decision-making process."

Not only faculty and students, but any concerned constituent or citizen may want to review planning materials. Thus it could enhance the credibility of institutional administrators if planning processes are opened up to all constituent groups. The introduction of a planning calendar similar to the regular budgeting calendar recognizes the importance of planning and disallows irregular planning practices. Beyond recognizing the need to plan regularly, publicly, systematically and comprehensively, institutional administrators must attempt to anticipate the future through more expansive planning. A difficulty with forecasting in the late 1980s is the rapidly changing environment that often presents the decision-maker with contradictory phenomena. Heydinger suggested that the more difficult expansive planning style reinforces the need of the regular, public, systematic and comprehensive planning aspects which were suggested in the context of higher education.

Effective academic administrators are those who have a clear vision of the institution's priorities and who have learned to balance the demands of internal and external publics. These administrators have come to terms with

the inevitability of change and the advance of technology. According to Mims (1980:57), postsecondary education administrators must learn to manage decline in their particular situation despite the numerous suggestions for coping in the literature and in anecdotal insight from fellow practitioners.

Student enrollment directly or indirectly affects all operations of institutions of higher education. Therefore, enrollment management has become a vital part of college administration bringing with it a new vocabulary and entirely new perspectives to administrators. Davis-Van Atta and Carrier (1986:73) pointed out that "Academic market research has become the new science for enrollment management." Terms such as markets, marketing, market share, segmentation, competition, positioning and image analysis, once uncomfortably used in higher education, have slowly become commonplace among postsecondary education administrators. In Hossler's (1986:103) view, "Institutional adaptation is almost a contradiction in terms, but that is what will be needed in the coming decade from institutions of higher education." Planning practices enriched by institutional research findings will allow academic leaders to implement the best strategies possible with respect to enrollment and other areas of postsecondary education management.

Cope (1981:55) regretted the use of "strategic planning" in higher education because those terms come from military and business orientations that focus on superiority, competition and defeating an enemy. He suggested that the term open-system planning clearly "recognizes the need for the open involvement of many constituencies as intentions are formulated." Norris and Mims (1984:701) viewed this period in postsecondary education history as moving from survivalism to a new maturity in administration, organization and planning. Institutional research was identified as the vehicle toward this

new maturity. They further stated that institutional leaders will need consciously to move from a survivalist mind-set to one of mature operational stability. Norris and Mims (1984:707) cautioned that "the need for insightful decisions is great, the penalties for poor decision-making will be extreme." In this sense then the survival posture should not be abandoned with a false notion of certain environmental stability and a return to expanding available resources.

Decision-making and planning will apparently continue to be difficult in process and difficult to defend, yet they are inescapable parts of postsecondary administration. In a later section, decision-support systems will be reviewed as a means of improving the planning and decision-making activities.

Accountability in Higher Education

The concept of accountability is understood in many ways by societies throughout the world. Within organizations, accountability is often limited to some form of responsibility to a superior or person in authority in an organizational hierarchy. Hasenfeld (1983:9) described a human service organization as "client-oriented (and therefore) . . . its goals are vague, ambiguous and problematic." Add to that moral ambiguity operating in a turbulent environment administered by inappropriately educated professionals, in Schon's (1983:11) view, and accountability measures are difficult if not impossible to determine. Yet clients have expectations of professionals to whom they turn for services.

Postsecondary educational institutions include a variety of professionally trained persons - - researchers, professors, counsellors, managers of campus services and overall institutional administrators. These persons have often expended many dollars and years in preparation for their careers in higher

education. Donald Schon (1983:294), after describing the situations that have produced professional incompetence, suggested that "one result of the rejection of professionals as problem solvers is the emergence of citizen professionals." These citizens personally engage in activities previously reserved only for so-called professionals in areas such as health care, law, education, real estate, financial accounting and counselling. In addition, these citizens expect high levels of performance with respect to services provided, costs charged and results expected.

These high expectations have lead to proliferation of litigation in American society. More specifically, Batson (1985) studied fifty-three cases of faculty initiated litigation against their employers - - two-year and four-year colleges, universities, religious colleges and private educational institutions. Higher education administrators must often defend their decisions in hiring, termination, workload and promotion of faculty as well as in policies of admission, financial aid and academic requirements for students. Batson (op cit., p.28) suggested that though "colleges and universities cannot avoid . . . lawsuits, (they) should make every effort to minimize litigation by careful periodic review of (institutional) data, policies and procedures. Institutional researchers can be a vital, integral component of this process." Institutional researchers can keep administrators informed of potential trouble spots by carefully monitoring all internal data and engaging in comparative studies of other postsecondary institutions.

Glover and Mills (1989:84) suggested that in addition to improving decision-making within institutions, institutional research may identify ways of better utilizing organizational strengths through external relationships. Improved relationships with other similar institutions may become evident through interinstitutional comparisons conducted through institutional

research activities. Resource accountability may be enhanced with appropriate interinstitutional comparisons particularly in smaller institutions whose resource base is frequently smaller than required for institutional vitality.

Accountability is legislated by government for public institutions. Funding and reporting on expenditures is an obvious form of accountability. Depending on provincial legislation public college and university governance may include a charter, a minister of higher education and a governing board. Private colleges and universities operate under a provincial charter, and there may be trustees, regents or board members designated to govern the institution.

Church-related colleges may be accountable to a denomination or a specifically designated religious constituency, including a governing board, alumni, faculty, staff, students and others within geographic proximity. The combination of scarce resources and declining status of professionals has introduced the aspect of accountability rather forcefully upon higher education institutions and their administrators.

Information Overload

Recently the widely defined information society in which we live has actually been viewed by some as an information overload society. Though it is described as a recent phenomenon, Simon (1957:198) referred to the human limitations of short-term memory and slowness of storage and retrieval in long-term memory as "bounded rationality," as follows: "the capacity of the human mind for formulating and solving complex problems is very small compared with the size of the problem whose solution is required for objectively rational behavior." Slovic (1981) held that the amount of

information people can receive, process and remember is severely constrained by cognitive limitations.

The "executive summary" has emerged as a useful managerial resource for busy, multiple function administrators. The National Center for Higher Education Management Systems (NCHEMS) has for years published sixty page executive summary reports of intensive research. The One Minute Manager, by Blanchard and Johnson (1982), addressed this very issue of overload by distilling and synthesizing knowledge about successful managerial activity in a book that could be read in an hour. On the negative side of information overload are studies cited by Hackman (1983:196) indicating that though "expert decision-makers believe they can make use of large pools of information . . . in reality they rely on fewer than ten items, ranging from two to three cues found in studies of judges setting bail to six or seven in studies of stock brokers." Hackman cited studies of expert decision-makers who apparently use more information in simulated situations than in real ones. Finally, decision-makers may for various reasons foreclose to threatening information and produce "groupthink," as described by Janis (1972), and produce disastrous results for institutions and nations.

Institutional research can facilitate appropriate decision-making by administrators through adopting the following maxims suggested by Hackman (op cit., p.207):

1. sorting out only necessary data;
2. providing models and systems where needed;
3. arranging data logically and in patterns for clear understanding;
4. knowing the decision-makers;
5. realizing that the readily retrievable instances (in time or importance) will carry the most weight in judgments of uncertainty;

6. introducing negative evidence and offering new possible hypotheses.

Small Colleges

"Smaller postsecondary institutions deal with similar complexities and information needs as do larger enterprises," according to Mayhew (1983:65), "and it is important that information is maintained in an accurate and timely manner." Wells and Picou (1982:30) summarize their case study of an innovation process at a small college in this way:

> For the most part, many of the people involved . . . found the (changes) traumatic. In this case the trauma of change occurred because the (change) was misunderstood, imposed and considered a threat to basic securities of the people necessary to make the innovation successful. Consequently the survival of the small colleges may, to a great extent be dependent on their ability to successfully innovate. Unfortunately, successful innovation appears to be an elusive phenomenon . . . (and) given the increasing economic insecurity of higher education and the descriptions of events which characterized innovations at small colleges . . . the future of these institutions appears precarious. (In order) to survive, (small colleges) must develop desirable characteristics which separate them from the crowd.

On a more positive note, Dickmeyer (1982:65), discussing financial concerns of small colleges, stated that "the pessimism that small colleges are doomed to failure . . . is unwarranted. The problems facing small colleges are not small but they are not insurmountable." Dickmeyer further suggested that small college administrators improve their mission statements to more accurately define what the institution does well, share facilities with nearby institutions and refuse to keep tuition low just because the institution is small and thereby support the belief that somehow the education is worth less.

West (1983:17) referred to issues raised by Mayhew and Dickmeyer cited above, indicating that the president of a small college must combine managerial and leadership skills in appropriate resource allocation and stimulation of the human resources to concentrate on organizational goals. No aspect of a small college is more vital to its health than the president who prioritizes college concerns correctly, according to West.

Planning processes which involve all constituents of a smaller college were found to be effective reviving institutional vitality according to Green (1990:40). In the small college planning process reported by Green, answers to serious questions were identified through the use of consultation and various institutional research technologies. Green (op cit., p.52) found that redefinition of institutional mission among other basic issues contributed to clarity and ownership of institutional purpose.

The April 2, 1986 issue of The Chronicle of Higher Education (pp. 23, 24) described the founding and development of a new philanthropic organization. Three years ago the Consortium for the Advancement of Private Higher Education was formed to help small private colleges in the United States. According to Consortium president Michael O'Keefe,

> Our focus is on the overall health of the institution and on relating planning for change to the curriculum, faculty and the inner workings of the college. We try to provide leadership in identifying key issues as well as incentives to colleges to address those issues.

This year, according to the article, 42 colleges received grants averaging $30,000. This development, focussed on helping smaller private

postsecondary institutions, may be the response necessary for some small colleges to avert the worst fears of writers cited above.

BIBLE COLLEGES IN CANADA

Canadian Bible colleges are distantly related to the protestant reformation in Europe. Early settlers in Canada brought with them doctrines that emphasized justification by faith and the value of personal Bible study. The freedoms they sought were found in Canada and the United States and their commitment to religious education persists into the present. Gazard (1980:17) described the cultural diversity of European immigrants who came to Canada in large numbers during the late 19th century and for several decades of the 20th century. Western settlements by these European immigrants were characterized by sectarianism, defined by Hiller (1978:197) as " . . . withdrawal from a society whose values they reject, creating a counter culture." Within this emerging counter culture, separate institutions such as summer camps, movie and recording studios, publishing houses, radio and television networks and educational institutions are often founded.

Hiller (op cit., p.198) further differentiated between postsecondary educational developments in the United States and in Canada, describing the American experience as "parallel institutionalism . . . whereas alternative institutionalism has existed in Canada." This alternative institutionalism in Canada has taken the form of Bible colleges. Gazard (1980) reviewed the needs and conditions facing the 19th century Christians which gave rise to the Bible college movement, including the lack of trained leadership, urgency of evangelistic vision, creeping theological and cultural liberalism, lack of

practical training and a general sense of dissatisfaction with existing educational programs.

In a recent study of the influence of the Bible schools on American life and education, Harvard history professor Virginia Brereton (1990) indicated that the significance and role of Bible teaching institutions in the United States has been little understood. Brereton (op cit., p.18) argued that whatever the fundamentalist movement was or was not, it was "decidedly an educational movement and most fundamentalists were educators." Contrary to the anti-intellectual stereotype of conservative evangelicals of that era, Brereton maintained that they were very much interested in intellectual pursuit.

The first Bible colleges founded in the United States were Nyack Missionary College, Nyack, New York in 1883, Skelton College, Cape May, New Jersey in 1885 and Moody Bible Institute, Chicago, Illinois in 1886. In his review of Canadian Bible colleges, Gazard (1980) noted that Ontario Bible College founded in 1894, was patterned on the Moody Bible Institute model. Several colleges, including Prairie Bible College founded in 1922 and Canadian Bible College, Regina, founded in 1941, were patterned on the Nyack Missionary College model. His brief review suggested that Canadian Bible colleges were a product of the sectarian immigrant settlers and modelled after the Bible colleges first introduced in the eastern United States.

Nearly 90 percent of today's Canadian Bible colleges were founded in the 1920s, 1930s and 1940s. These colleges describe their early years as characterized by devotion, vision, determination, sacrifice, disappointment, hardship, growth and rewards. Mann (1972:84-98) outlined several factors that attracted students to the Bible colleges:

1. Bible colleges provided a place for young men and women to acquire theological education not available within the local churches.

2. They offered leadership training to young people to work in lay ministries without pressure to adopt ministerial careers.

3. Postsecondary education was provided at a nominal cost.

4. The term of study coincided with the winter lull in farm work and also at a time of year when possible competing recreational and social interests were at their lowest.

5. They provided young people from rural settings with an escape from unattractive occupational prospects. Social benefits were also realized by students who found marriage partners during their Bible college years.

6. Education gained from Bible college could improve the young person's social status by preparing him to become a preacher or missionary.

7. The Bible college education would provide opportunities for geographic mobility.

Additional educational programmes were introduced in some institutions. Briercrest Bible College and Prairie Bible College introduced high school departments. Other institutions such as Canadian Nazarene College and Hillcrest Christian College introduced secular courses into their programs. Mann (1972:88) stated that "the Bible colleges provided the secondary education in a residential setting under strict supervision."

The Bible colleges perpetuated the fundamentalist sectarian traditions according to Gazard (1980:39). Radio was used as an evangelizing and teaching medium. This served to propagate their fundamentalist evangelical point of view and to advertise and gain support for their institutions. The congregations that supported these colleges were fundamentalist. The Bible colleges which were integrated into the rural community produced graduates who related more easily to the religious traditions and ideology of the prairie communities. Students at the Bible colleges learned frugality and a sense of

missionary self-sacrifice which helped them to persevere in the rural situations which provided a meagre salary for church workers.

Canadian Bible colleges were going through uncertain times in the 1980s. The larger and urban Bible colleges are seeking some course transfer credit arrangements with nearby universities or regional colleges. The smaller and rural or semi-rural colleges are experiencing serious hardships. This Canada-wide rationalization of Bible colleges suggested by Gazard (1980) may result in survival strategy amalgamations or closure for several colleges. Efforts are being exerted to prevent demise and to refocus the fledgling institutions. However, as some colleges experience decline, church groups in some larger cities are developing Bible study programs and courses taught in existing church buildings. A perusal of Bible college calendars by Gazard (1980) in which a brief account of institutional history was given indicated that many of the colleges founded 30 to 50 years ago began in the same way. Perhaps a renaissance of the old Bible college idea is coming to replace the current Bible colleges that have expanded their curricula to offer liberal arts and humanities courses.

The majority of Canadian Bible colleges hold membership in the Association of Canadian Bible Colleges established in 1968. Prior to that, according to Gazard (1980), the Canadian Bible colleges had recognized the need to exchange views and work together, and had established the Canadian Conference of Christian Educators in 1959. The American Bible colleges had earlier sensed the need for mutual support and founded the American Association of Bible Colleges (AABC) in 1946. As an accrediting organization, AABC seeks to encourage and maintain high standards of college operations within Bible colleges. Approximately 90 Bible colleges were accredited with the AABC in 1986, including twelve Canadian Bible colleges.

For Canadian Bible colleges there has been little more than institutional upgrading value with AABC accreditation. Accreditation with the AABC has not been effective as a means for Canadian Bible colleges to develop relationships with Canadian higher education institutions. That may partly explain the small number of Canadian Bible colleges seeking AABC accreditation.

INSTITUTIONAL RESEARCH IN HIGHER EDUCATION

Dennis Jones (1982:38) proposed a description of higher education that could form a conceptual basis for conducting institutional research.

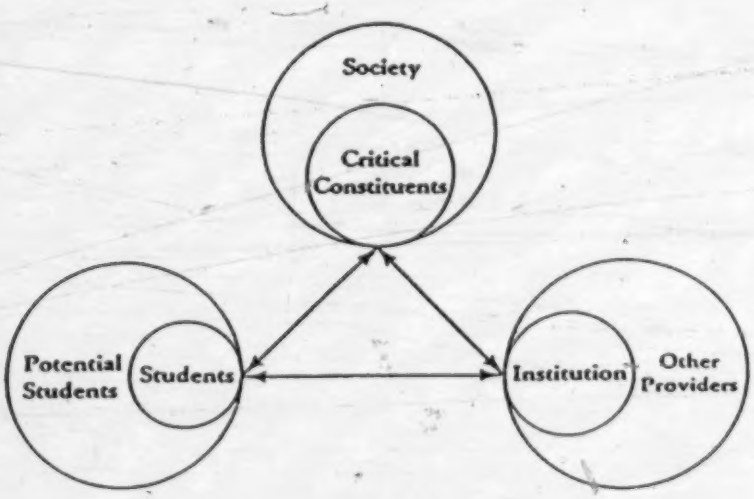

Figure 1. Basic Entities of the System of Higher Education (Jones, 1982)

The three basic areas and the three discrete groups within each area help to balance institutional research activities. The larger circles represent three general areas of a higher education system. They are society at large, potential students and providers of higher education. The smaller circles

define a particular institution, critical constituents of that institution drawn from society and the students who have chosen to enroll in the identified institution. Conducting institutional research which is arranged among those groupings would best provide the needed balance which Jones views as necessary for appropriate institutional research. Institutional research concerns itself with providing usable information to institutional decision-makers. Greenberg (1982) premised his study on the belief that "effective institutional research can contribute to the improvement of the institution by providing factual data for decision-making."

An institution's management information system (MIS) "is an information system which provides the manager with the information needed to make decisions," according to Aron (1969:213). Data have traditionally been stored and retrieved manually. Furthermore, data were often collected for individual or program needs and kept stored in separate departments or program offices. This way of handling data was convenient and effective for local administrators, but it often prevented system-wide decision-makers from using all relevant information. Computer developments have made it possible for corporate managers to benefit from all institutional data when a data base management information system was created. Cohen (1979) suggested that data generated to serve a community of users costs more initially but will become cost-effective after multiple and ongoing use. Cohen (op cit., p.2) defined the data base systems approach as "data oriented rather than program oriented."

Managing the data in a data base has been called a data base management system (DBMS). Korenthal (1978:2, 3) identified the following tasks that a DBMS must perform:

1. It must maintain the data in the data base to allow the adding, modifying and deleting of data.

2. It must provide a query function to allow searching of the data base for records which satisfy certain criteria.

3. It must provide a reporting facility to allow production of reports on the data found. Reports may be as simple as stating the number of records which satisfy a single criterion or as complex as a statistical analysis of the data associated with all the records which satisfy a combination of many criteria.

A computerized MIS depends upon the DBMS to provide the maintenance, query and reporting facilities. Holland (1980:141) stated that the "intelligence" or user view is provided by the functioning MIS that then allows the data to be transformed into meaningful information usable in decision-making. Simmons (1979:16) attacked educational administration for its lack of information systems use by stating that "education has traditionally been a late adopter of new technologies."

One need only review a portion of the available institutional research literature to ascertain that conceptual and structural disagreements exist among practitioners of institutional research. Johnson (1979:50) reviewed seven definitions of institutional research offered by well known writers in the field of institutional research and higher education. The perspectives ranged from highly proactive probing functions through sensitive decision-support to a purely servant role to institutional administration. On the subject of professional training for institutional researchers, a similar dissonance is evident. Johnson (op cit., p.57) promoted graduate studies in institutional research and Dressel (1979:48) suggested "that institutions seek good people rather than those trained to do institutional research." Doi (1979:40) looked

back over the recent 25 year history of institutional research and was not able to see any farsighted planning that resulted in the growth of the profession but rather "it just sort of happened over time with good people responding to real or perceived needs for data or decision-support." Bricker (1979:61) identified two real worlds for the institutional researcher:

1. the data based efforts world, and
2. the multi interest decision-making world.

Referring to the institutional researcher, Bricker (op cit., p.63) prescribed that the professional should be "concise, cogent, conciliatory, offer compromise and confront through reason to produce economy, efficiency and effectiveness," or expect nothing to happen at all. Expanding on this, Brinkman and Krakower (1983) suggested that great value can be derived by individual institutions from institutional research conducted among similar institutions. Similarity was defined as program similarity, geographic commonality and comparability of goals. Institutional research conducted in the discrete area of a particular institution as described by Jones (1982) certainly has value but this value can be enriched with the study of other providers of higher education in the categories stated above by Brinkman and Krakower. The importance of institutional research for higher education administrators is in the decision-support role.

Decision-Support in Higher Education

Keen and Wagner (1979:117) viewed the decision-support system (DSS) as an "executive mind-support system." This means that beyond usable information generated by a DBMS, system-wide similarity of vocabulary and common focus of managerial attention can be expected within an organization using an automated decision-support system according to Alter (1980). A

decision-support system is intended to improve the effectiveness of the manager. Jedamus (1984:79) stated that "due to the incredible amount of data, no longer is the availability of data the problem to decision-makers but management of excessive data." Jedamus (1984) suggested that for maximum benefit to the institution, the institutional researcher must learn to be the decision-support intermediary or the decision-support facilitator or the decision-support manager. This understanding of his role would give direction to the institutional researcher's work and preserve him from the mediocre role of computer technician only.

Sheehan (1982:8) asserted that for maximum benefit to the institution the institutional researcher must alternately wear three hats representing the technician, the intermediary and the decision-maker for understanding the problem and providing only information that addresses the decision issue. McLaughlin, et al (1987:89) seemed to affirm Sheehan's perspective when they observed that information managers must consider the decisional styles of decision-makers, their own use of technology and to whom they were accountable. The value of data-based information was affected by the institutional researcher's awareness of overall aspects related to the institution, decision opportunity and decision-makers.

William Mayhew (1983:65) in "Computer-Supported Information Systems" stated that:

> Small postsecondary institutions deal with similar complexities and information needs as do larger enterprises. It is important that information is maintained in an accurate and timely manner.

Small colleges can benefit from a computerized MIS in the following ways, according to Mayhew (op cit., p.70):

1. Organization-wide MIS is best for departmental and higher administration needs.

2. The creation of a data base is essential where data are recorded only once and updates are available to all users.

3. Avoid an all-at-once implementation process as information structures and needs are very complex even in smaller colleges. Implement one department at a time into a system wide "picture." Success in one department will encourage others to cooperate fully.

4. Currently available programming languages and software can be implemented quickly and correctly.

5. On-site computing facilities are not always necessary as time sharing on local community computers is often available. Issues of security and information privacy are readily addressed by available technology.

6. This MIS should report to the chief administrative officer for equitable provision of needed services.

7. A needs analysis is necessary for computer-assisted success in management and this in itself forces the institution to do what is often rarely done.

Norris and Mims (1984:707) connect the new maturity they envisioned for higher education management with appropriate use of a "true decision-support system." The understanding that Norris and Mims (op cit., p.708) bring to this discussion of decision-support is that they expand it beyond the MIS framework to include "the linking of technology, analytical perspectives, technical tools and learnings from research to support decision-making in a truly insightful manner." In the words of Norris and Mims (ibid.), the focus of this true decision-support system is:

> . . . to address semi-structured or unstructured problems or decisions that affect an organization's effectiveness . . . and provide the administrator with direct, flexible, easy-to-use computer-based support for important non-routine problems and decisions and are designed to enhance judgment rather than replace it.

Masland's (1984) findings regarding DSS operations confirmed Sheehan's (1984) findings to the extent that the intermediary, integrator role is not about to disappear since decision-makers require the consultation of specialists who have understanding in both technical and problem-to-be-solved areas.

Sheehan (1982:3) traced the history of decision-support systems beginning with the Carnegie Institute of Technology including researchers such as Simon, Cyert and March in the early 1960s, and with Massachusetts Institute of Technology conducting interactive computer experiments through the 1960s. Scott Morton is said by Sheehan (1984) to be the first person to bring technology and theory together in the early 1970s. The decision-support system approach described by Sheehan (1982) depends on the technician's clear understanding of decision processes and the decision-maker's appreciation of the criteria necessary for developing useful computer-based decision tools. Further, Sheehan (1982) was in agreement with Norris and Mims (1984) when he included computer science, management science and behavioral science in DSS methodology.

Small College Implications

Institutional research in the smaller college was described by Rice (1979:78) who singled out Sheehan's Hierarchy of Information Systems (Figure 2 p. 38) as a "useful perspective on the work of institutional

research." Grose (1979:82) stated that "the smaller college requires less formal, organized collection of information as collegiality exists and decision-making is less formal, not requiring extensive substantiation." Grose (op cit., p.87) further suggested certain qualities needed in a person who conducts institutional research in a small private college:

> . . . an unshakeable vision of improved institutional decision-making, a faith in the process of planning, a respect for the teaching of the faculty, a hope for student learning, an inner-directed confidence in one's contribution and an unusual security.

The administrators of a small college, therefore, must balance their entrepreneurial, heuristic decision-making tendencies with formal data collection in order to expect optimum results with a minimum of failure.

RESEARCH OF INSTITUTIONAL RESEARCH

Institutional research has been studied as a research instrument of higher education administration and the administration of other organizations. Farrell (1984:306) concluded his bibliographic essay with this view: "There is a wide diversity of opinion regarding the proper role of institutional research in decision-making." His literature search indicated that due to the highly charged political influence process of decision-making as well as personality factors, it would be wise to preserve the neutrality of the institutional research office and thereby maintain credibility with most members of a college campus community.

Holdaway (1985) concurred with Farrell, citing the need to provide useful information for planners. Additional involvement such as serving on

planning committees and preparing reports was balanced by maintaining campus credibility through producing impartial, correct, current and longitudinal data using widely approved measures. Any credibility gap must be responded to quickly and appropriately to insure organizational integrity.

Organizational Level

The organizational level of institutional research and its reporting lines have been discussed in the literature, with the conclusion that each institution should determine its own organizational placement. Organizational placement must seriously address impartiality and credibility aspects. Holdaway (1985) believed that the Office of Institutional Research and Planning (OIRP) was correctly placed under the vice-president (academic) at the University of Alberta. Zemaitis (1982) found that the title assigned to the institutional researcher indicated the level of administrative influence that the office of institutional research enjoyed. Titles ranged from Dean to Coordinator. G. Barnes (1981) reported that the chief executives and institutional researchers of Ohio colleges strongly supported close ties between institutional research personnel and administration. Tetlow (1973) did not suggest a specific organizational placement for institutional research, but strongly promoted planning and evaluative functions for the office of institutional research. Broderick (1973) found that the majority of the institutional research directors in two-year colleges reported directly to the president. Though unclear in theory, in practice the institutional research function is most often closely aligned with top administration in a college, especially in the smaller college.

Institutional Research Personnel

Selection of people to do institutional research is often pragmatic since many institutional research assignments are ad hoc and issue specific according to the findings of Zemaitis (1982). This means that available personnel are seconded into conducting research projects of a time limited nature. More has been researched about the needs of institutional research personnel than who they are. In this connection Larkin (1973) found that institutional researchers needed reinforcement and support from others in their field and a thorough understanding of institutional decision-making practices. Grose (1979:86) stated that "in the small institution the institutional research person may also be the registrar or education professor indicating only a part-time role for institutional research." Greenberg (1975) discovered that for maximum effectiveness the institutional researcher should be familiar with the operation and philosophy of his/her college and be knowledgeable in electronic data processing and systems analysis.

Financing of Institutional Research Activities

When considering any enterprise, it is useful to theorize how it could be organized and what functions it would perform, but perhaps the most instructive aspect is to determine how much money should be spent in order to adequately conduct the business of the agency. Greenberg's (1975) national study of two-year colleges found that though level of funding did not affect the administrator's satisfaction with institutional research, the older schools and those departments which performed a wide range of services for the college administrator were provided funds approximating 0.5 percent of the institutional budget. Holdaway (1985:161) reported that the Office of Institutional Research and Planning (at the University of Alberta) received

approximately 0.25 percent of the University's total operating budget. This is interesting since Hillman (1982) reported that the University of Alberta institutional research office was staffed better than at any other Canadian university.

Chalker (1980:89) reported that inadequate programs and institutional dissatisfaction stemmed largely from "lack of money, lack of emphasis from administration and lack of full-time institutional research personnel." G. Barnes (1975) maintained that institutional research should be funded through regular institutional budgeting and, in general, funding should be increased in order to better serve the institution's decision-makers. Broderick (1973) discovered that the majority of colleges he studied reported satisfaction with institutional research despite the fact that no institution spent more than 0.5 percent of its institutional budget on the institutional research office and its activities.

It would seem then that the level of financing of institutional research activities by institutions indicates the level of research productivity expected. Funding is further affected by appropriate emphases from administration and the credibility of persons assigned to conduct such research. Any resistance to institutional research could be developed from aspects such as level of funding, support by administration and the credibility of the institutional researcher.

Resistance to Institutional Research

It was Paul Dressel (1971:6), for some time the "dean" of institutional research in higher education, who stated that "It is the nature of organizations to resist evaluation." Elsewhere in this review the slowness to change by

higher education institutions has been documented and it surely affects institutional research.

Broderick (1973) reported that institutions that conducted very minimal institutional research explained it by stating that they found it hard to change older faculty and institutional practices or that the institution was too new to need institutional research or that the institution had no major problems at present. Zemaitis (1982:91) discovered that resistance to institutional research took many forms, including:

> . . . inadequate budget allocation, low status in administration hierarchy, ignoring findings when presented and a sense among educators that academic areas should not be interfered with by institutional research.

Baldridge and Tierney (1980:588) studied the success rate of implementing new administrative procedures and institutional research. They found that where new innovations failed, it was usually because of "inadequate technology, funding and staffing; resistance by entrenched groups; and a host of other factors." Baldridge and Tierney (op cit., p.581) viewed smaller colleges positively because of the "greater sense of shared responsibility among institutional members." This collegial situation may be positive for the institutional researcher when that person is knowledgeable about the institution and has personal credibility combined with technical expertise.

CONCEPTUAL FRAMEWORK

An Hierarchy of Information Systems (Figure 2) developed by Bernard Sheehan (1972) was chosen for this study. The conceptualization developed by

Sheehan and others was in response to a decade-long discussion in Association of Institutional Research (AIR) annual sessions regarding a conceptual framework for institutional research. Sheehan's model has provided a basis for the study of institutional research and planning practices since it was first developed in 1972.

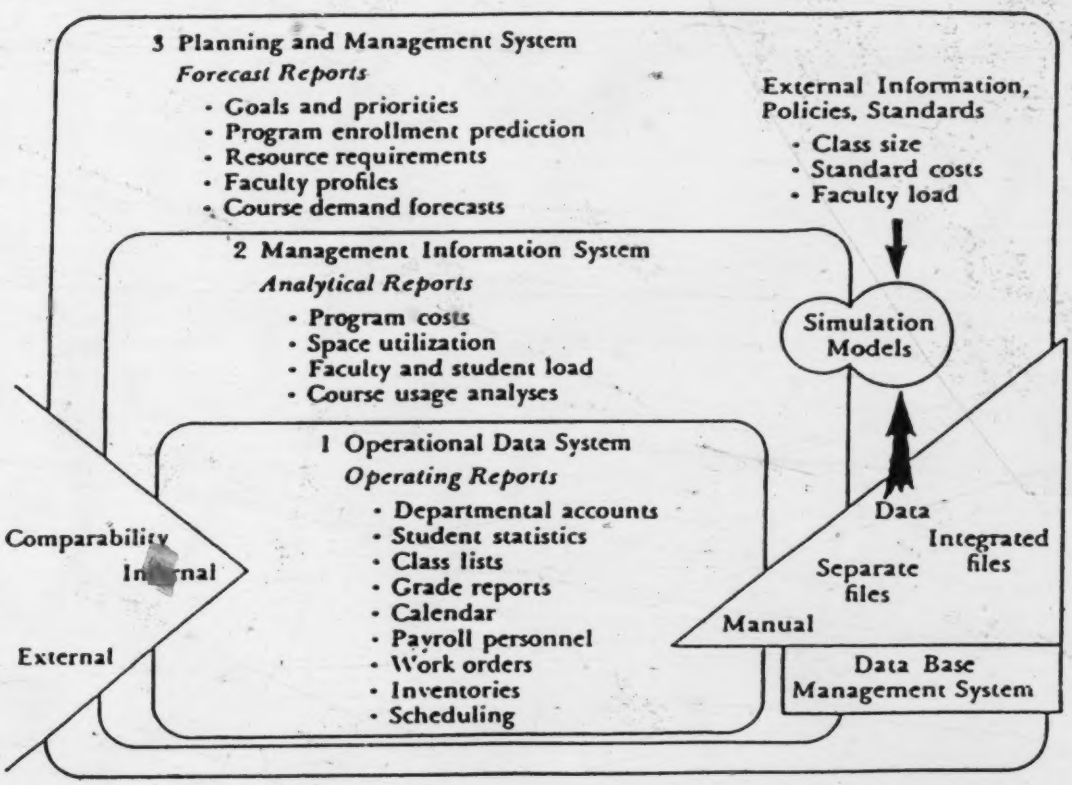

Figure 2. An Hierarchy of Information Systems (Sheehan, 1972)

Modifications of Sheehan's schema have been used by Haight and Romney (1975), Lawrence and Service (1977) and Lasher (1978). Lasher (1978) developed a Hierarchy of Data and Information Systems in a Comprehensive Institutional Planning Process model. This most recent modification of Sheehan's earlier model includes the relationship among

information systems and data collection devices, and identifies institutional personnel who would be expected to participate in the planning process.

This study used Sheehan's conceptualization since it best describes the basic activities that are engaged in by those who conduct institutional research. The smaller postsecondary institution can rarely afford the cost of an institutional research specialist, according to Grose (1979:86), and frequently the institutional researcher may also be registrar or an education professor. The findings of this study will determine the extent to which institutional research is conducted in Canadian Bible colleges using the general guideline of Sheehan's framework. The survey questionnaire was organized along the lines of this model. The interview guide was designed to query further into aspects addressed in the survey instrument. Questions sought to gather data regarding items specifically mentioned in the conceptualization and in institutional research literature.

There are three major areas of research described in Sheehan's framework. The operational data system includes the development of operating reports in routine operations including such aspects as student records, payroll, departmental accounts and inventories. These aspects identify the categories in which data may be collected within any institution. The consistency of recording the data in particular discrete categories will permit subsequent comparisons across departments within institutions and may also be compared with data from other institutions where similar categories had been previously established for data collection. Such data may identify for the researcher developing trends within an institution and perhaps in a defined geographical region. Early identification by institutional researchers of apparently problematic circumstances could assist decision-makers in preparing for anticipated challenges arising from reported data or for

initiating analytical report research. These data comprise the data base for the other two major areas of inquiry for institutional researchers.

The management information system includes the preparation of analytical reports under topics such as program costs, space utilization, faculty and student load and course usage analyses. This level of institutional research depends on the data base developed for accuracy of data and may proceed into analyses required by decision-makers. Issues addressed by this research will have an impact on the education received by students since it relates to course demand and utilization of institutional resources in providing the teaching and learning opportunities required by students. Decision-makers will have access to analytical findings derived from basic data which were collected using consistent data collection procedures. Institutional researchers may use various simulations and comparative data in providing usable information for decision-makers as part of this area of institutional research.

The planning and management system utilizes institutional research conducted and submitted through operating and analytical reports. Planning and management system research develops forecast reports in areas such as goals and priorities, program enrollment and various resource requirements through comparative studies of internal institutional data gathered over the years as well as data available from other similar institutions. Forecasting student needs in a wide range of course and program choices is at best a difficult undertaking. Student needs extend beyond availability of courses but must also involve other resource considerations such as classroom space, parking, instructors, learning resources or other kinds and scheduling which is suitable for professors and students. Since higher education decision-makers must anticipate future factors that may affect institutional operations, this

situation provides the institutional researcher opportunities to assist in the planning process with relevant information based on accumulated data as described by Sheehan's conceptualization.

SUMMARY

This chapter contains a review of the literature together with a conceptual framework for the study. The literature provided guidance in studying the institutional research practices of Canadian Bible colleges. The literature reviewed suggested that institutional research not only provided much needed decision-support but in times of uncertainty it may be expected to produce insights which could preserve institutional health and vitality. Dressel (1971), Heydinger (1980), Norris and Mims (1984) and Schon (1983) suggested that the unpreparedness for societal change presents the postsecondary institution with the challenge of change and with the need to be accountable to the constantly changing environment. These challenges can be addressed by the postsecondary institution with the help of institutional research conducted by appropriate personnel with sensitivity to the particular institution.

Smaller postsecondary institutions face issues similar to those faced by larger institutions. Until recently, the availability of sophisticated computer technology was unavailable to the smaller enterprise because of cost. Now, however, with the widespread availability of microcomputers and suitable software, institutions of any size can benefit from institutional research in Sheehan's (1984) view. Canadian Bible colleges as smaller postsecondary institutions facing complex problems need the help of institutional research in their decision-making challenges. Some help is becoming available for smaller institutions located in the United States.

The value of institutional research activities was clearly supported. The literature further suggested advice for administrators regarding organizational level, personnel, funding and resistance to institutional research in developing an institutional research program. The variety of literature sources has helped describe the nature of institutional research and its possible application in the administration of Canadian Bible colleges. Various literature sources reviewed have helped describe Bible colleges and how the use of institutional research could aid in solving operational challenges.

CHAPTER 3

RESEARCH DESIGN AND METHODOLOGY

This chapter includes three sections: (1) research design; (2) instrumentation; and (3) methodology used in the study.

RESEARCH DESIGN

Decision to Conduct Research

The decision to conduct this research came from the researcher's doctoral coursework, experience in postsecondary education and reading in the field of institutional research. In addition, the researcher's experience as professor and administrator in Canadian Bible colleges substantiated his interest in exploring the status of institutional research conducted in those colleges. From his research of planning practices in similar colleges in the United States, Eagen (1980) concluded that decision-making and planning would be enhanced by better institutional research. Eagen's finding prompted this researcher to wonder if Canadian Bible colleges would be helped in their planning and decision-making if they could participate in such a study. Perhaps the senior administrators of Canadian Bible colleges would review subsequent findings and consider more extensive use of institutional research in the administration of their institutions. The enthusiastic response of college administrators to this study substantiated these expectations.

Nature of the Study

The research was organized as a field study employing a survey questionnaire and a followup interview in data collection. The study was descriptive rather than evaluative, focussing on data collected from presidents and other senior administrators of Canadian Bible colleges. The literature (Jedamus 1980) cited the president as the one who initiates and may frequently conduct institutional research.

It seemed appropriate to survey all Canadian Bible colleges that belonged to the Association of Canadian Bible Colleges (ACBC), since there were few in number, providing a rather comprehensive viewpoint for this study. The survey and interview instruments were developed from questionnaires used in earlier research (G. Barnes, 1975; R. Barnes, 1981; Chalker, 1980; Hillman, 1982; Zemaitis, 1981) and were designed to reflect the conceptualization of institutional research created by Bernard Sheehan (1972). The analysis of data should provide a reasonable understanding of the status of institutional research practices in Canadian Bible colleges.

The Population

All Canadian Bible colleges in the Association of Canadian Bible Colleges (ACBC) during the 1985-86 year were included in the study. (See Appendix B for a listing of participating institutions.) These colleges included a variety of institutions by age, denominational affiliation, size, program and geographic location. The ACBC was formed in 1968 as a voluntary, relatively informal association, seeking to improve Bible college education in Canada. Personnel from Canadian Bible colleges meet annually in May for a two-day conference where sessions are devoted to general operational improvement.

Canadian Bible colleges, according to Gazard (1980:104), are characterized by great diversity in terms of academic programs, geographic distribution, enrollment, credit transfer arrangements, governance and institutional age. A further consideration, in Gazard's view, was that each Bible college is anchored in a region of Canadian society. The evidence for such a claim is that each college has an identifiable support base that influences institutional activities, policies and development.

INSTRUMENTATION

This study was structured according to Sheehan's (1972) conceptualization, "An Hierarchy of Information Systems." Two instruments were employed in this study. A survey questionnaire (Appendix A) was developed to assess institutional research practices in Canadian Bible colleges. In addition, the survey instrument asked respondents to identify their institution by age, governance, size and location. The survey instrument was judged to be most effective for the collection of data from many institutions.

The questionnaire data were enriched with additional perspectives gathered from interviews with selected respondents. An interview guide (Appendix C) was developed to gather additional data which would increase the understanding of the researcher, and to aid in identifying decision-making factors encountered by the Bible colleges. This guide was utilized during the structured interviews conducted with selected college personnel.

Questionnaire

The questionnaire was selected as a technique for gathering data because it offered a number of advantages over other research techniques (Mouly,

1978; McCallon and McCray, 1975): objectivity, convenience, reasonable cost, comprehensiveness, wide coverage, anonymity, uniform responses and ease of tabulation and analysis. The disadvantages of using a questionnaire, such as lack of flexibility and the possibility of a low response rate, were not considered serious in view of the knowledge and experience of the respondents and the homogeneity of the colleges studied. The questionnaire was designed to produce factual and descriptive data which could be used to determine the status of institutional research activity in the Canadian Bible colleges. In addition, the geographic location of the colleges, from Prince Edward Island to British Columbia, made the questionnaire a very cost effective means of data collection.

A review of similar studies was conducted to determine the kinds and amount of data which might be gathered using a questionnaire (G. Barnes, 1975; R. Barnes, 1981; Chalker, 1980; Hillman, 1982; Zemaitis, 1981). From these studies a bank of possible questionnaire items was developed. Additional items were carefully developed on the basis of suggestions from personnel involved in offices of institutional research at three public postsecondary institutions in Alberta.

The questionnaire consisted of five sections (Appendix A). The first section asked respondents to provide general institutional information such as year established, governance, current enrollment, size of surrounding community and manner in which institutional records were kept. These characteristics helped the researcher to compare data across institutions.

The following three sections dealt with data collection in terms of Sheehan's (1972) concept of institutional research in three categories: operating reports, analytical reports and forecast reports (Figure 2 p. 38). Respondents were asked to indicate the extent of institutional involvement in

each activity as well as their perception of the importance of each activity for the institution. A further subsection asked respondents to identify the persons or departments that would most often initiate and conduct the institutional research described in each area.

Operating reports were defined as reports or summaries of collected data associated with student admissions, course registrations and grades, daily transactions in the business office, various student affairs departments, institutional administration, physical plant and maintenance, and all personnel matters. Analytical reports consist of information resulting from data collected as operating reports and integrated with other appropriate institutional information. These reports combined with historical studies of resource use, activity costs, changing student and course enrollment patterns that provide decision-makers with an improved understanding not readily deduced from basic statistics of institutional transactions. Forecast reports result from the integration of internally collected data with external information that assists administrators in management decisions requiring reliable predictions of future environmental conditions.

The final section of the questionnaire provided the respondents with the opportunity to offer further insights about institutional research with several open-ended questions. These questions inquired about institutional organization, funding practices, decision impact and the value placed on institutional research within the institution. A last question simply invited any other comment which was not addressed by the questionnaire but seemed important to the respondents.

Interview Guide

An interview guide (Appendix C) was designed to aid the researcher in verifying and probing more deeply into the questionnaire data collected. This semi-structured interview instrument was organized so that the respondent could clarify for the researcher whether certain factors that could not readily be identified by the questionnaire instrument affected the practice of institutional research.

Gazard (1980) found, in studying Canadian Bible colleges, that the so-called focussed interview was very helpful for exploring in depth. Specifically, Gazard (1980:113) cited several reasons for conducting a personal interview in this fashion, including: fear of unknown researcher, extreme diversity of responses implying unique institutional factors, and relative ambiguity of the topic. Fear of an unknown researcher was less of an issue in this study than for Gazard since this researcher was president-elect of an ACBC college at the time of the study. On the other two points, there was evident a need to pursue the questionnaire data more deeply for better understanding with the use of a semi-structured interview. Isaac and Michael (1971) suggested that the researcher may branch off from structured core questions to explore a topic in more depth. Accurate information can be gathered with the additional advantage that the interviewer has the opportunity to probe for underlying factors or relationships too complex or elusive to discover in more straightforward questions.

The questions in the guide were organized around the five sections of the questionnaire instrument. Respondents were either presidents or other senior administrators who were intimately familiar with institutional practices. In all but one case, the interviewees had been involved in the completion of the questionnaire on behalf of their institution.

Pilot Study

A pilot study using the questionnnaire and interview guide instruments was conducted with three Edmonton area colleges. Though these colleges did not belong to the ACBC, they were religious colleges with substantial offerings in the humanities as well as in Bible. These colleges were affiliated with different church denominations and were relatively small in size, approximating Canadian Bible colleges very well. The presidents of those colleges were willing to participate by completing the questionnaire and by discussing the questions from the interview guide.

The pilot study provided important feedback about the form and content of the instruments. Each was modified to incorporate the suggestions of these presidents. Some wording in both instruments was changed and a clearer format for the questionnaire was developed. The instruments were considered satisfactory by the researcher and his supervisory committee, and were deemed suitable for distribution.

Validity

The validity of research instruments refers to the issue of whether they actually measure what they set out to measure. Mouly (1978) suggested that for content validity, each question must be related to the problem under investigation and that adequate coverage of the topic as well as clear and unambiguous wording must be characteristic of the instrument. These criteria were carefully considered in developing both instruments for data collection. The process of development moved from review of other research instruments, to initial format, to expert evaluation, to pilot study and to final

revision of the data collection instruments. Therefore, the researcher was confident of the content validity of the research instruments.

Reliability

The consistency or reliability of research instruments is "difficult to establish," according to Mouly (1978:195). If reliability includes the expectation of accuracy of the data and repeatability of the research, then basing the instruments upon previously utilized ones, conducting a pilot study and seeking expert advice will satisfy research criteria. Mouly (op cit., p.196) more strongly stated that "ensuring validity might be a better investment of one's time and energy." Both instruments were designed to produce factual data rather than to test, measure, or evaluate, so reliability was not as crucial a consideration as validity for this particular study. The steps involved in the development of the instrument helped to establish reliability.

RESEARCH METHODOLOGY

Data Collection

Questionnaires were mailed to the presidents of all ACBC institutions by the researcher in March, 1986. Data were collected during April, May and June, 1986. In addition to the initial mailing of questionnaires, the researcher mailed or personally delivered replacement copies in several cases due to loss. Many followup telephone calls were made during data collection by the researcher in order to encourage the return of completed surveys. (In fairness to the presidents of Bible colleges, the research was undertaken during one of the busiest times of the year and this certainly affected the quickness of response.) Excellent cooperation was

provided in that 45 of 47 survey questionnaires mailed were eventually used in data analysis.

A selection of 12 college administrators was made to reflect a wide range of factors affecting Bible college operation -- institutional age, governance, size, and location. Appendix D presents the institutions that were involved in the interview. All interviews were conducted personally during or immediately after the ACBC conference held in May, 1986 in Peterborough, Ontario. The convenience of the conference made it possible for the researcher to conduct the interviews with institutional representatives from a variety of institutions across Canada.

Data Analysis

Data indicating the extent of institutional involvement and perceived importance of such activity were analyzed by means of frequency tables and other descriptive portrayal. The statistical measures relied heavily on means and percentages from which the descriptions were developed. The effects of institutional age, governance, size and location were examined by the use of t tests and F tests.

Interview data were analyzed through careful content review, sorting and combining in terms of the research questions and for the purpose of appropriate summarization. Presentation of these data in table format seemed to represent data most clearly.

SUMMARY

This chapter provided an overview of the research design and methodology used in this study. Specifically, it described the development and

structure of the instruments, how they were administered, and the procedures by which the data were analyzed.

CHAPTER 4

DESCRIPTION AND ANALYSIS OF DATA

This chapter contains a description of the institutional respondents in the study and the survey findings. The survey findings are presented through a series of tables and descriptive commentary. Based on the conceptual framework, the findings are arranged by the following categories adopted for this research: institutional profile; operating reports; analytical reports; forecast reports; open-ended questions; and responses to follow-up interviews. Within each of the three data sections pertaining to the conceptual framework, the effects of the independent variables are examined by statistical analyses.

INSTITUTIONAL PROFILE

The profile of Canadian Bible colleges includes tables which define the colleges by: year founded, governance (type), size, location and provincial distribution. These categories were selected because each was identified in the literature as having some impact on the extent of institutional research conducted.

Distribution of Colleges by Year Founded

Table 4.1 presents the responding institutions by the year in which they were founded. Eighty-five percent of the institutions were founded by 1950. It is remarkable to note that two-thirds of the Bible colleges were founded

during the financially and politically difficult decades of the 1930s and the 1940s. Interestingly, four institutions were founded during the recent growth years of postsecondary education from 1970 - 1979. Only one Bible college was founded during the first half of the 1980s.

Table 4.1

Distribution of Colleges by Year Founded

Year Founded	Frequency	Percent
1980 - 1986	1	2
1970 - 1979	4	9
1960 - 1969	0	0
1950 - 1959	2	4
1940 - 1949	14	31
1930 - 1939	16	36
Prior to 1930	8	18
Total	45	100

Distribution of Colleges by Type of Institution

Canadian Bible colleges may be described as either denominational or interdenominational. Denominational institutions are owned and operated by a distinct constituency of churches and institutions with particularly defined expectations, and are often governed and funded by that constituency. Interdenominational institutions are not owned and operated by a religious

denomination; they are accountable to a constituency of alumni and friends who provide the resources needed for continued operation. The expectations may be less clearly defined than for denominational institutions, with the institutional administration often being accountable to a self-perpetuating governing board that serves as trustees of the institution. Table 4.2 shows that 69 percent of the institutions were denominational while 31 percent were interdenominational.

Table 4.2

Distribution of Colleges by Type of Institution

Type	Frequency	Percent
Denominational	31	69
Interdenominational	14	31
Total	45	100

Distribution of Colleges by Size

Table 4.3 portrays these institutions by size, and indicates that 76 percent reported fewer than 200 enrolled students. Eleven percent of the colleges had 200 - 299 students and only 13 percent had more than 300 enrolled students in their programs. The small size of Canadian Bible colleges together with a limited constituency of support affects the operation of these institutions. Administrators of Bible colleges face the challenge of institutional development with scarce resources.

Table 4.3

Distribution of Colleges by Size

Size	Frequency	Percent
300 or more	6	13
200 - 299	5	11
100 - 199	15	33
Below 100	19	43
Total	45	100

Distribution of Colleges by Location

The location of a postsecondary institution is important. Canadian Bible colleges are located in a variety of communities across Canada. Table 4.4 indicates that Canadian Bible colleges are located quite evenly according to size of community in which they are located. Thirty-eight percent of the colleges are located in communities of 150,000 or more. Twenty-seven percent of the colleges are in smaller cities, and 35 percent are located in towns or semi-rural settings. It is interesting to note that four of the six largest institutions are interdenominational, and located in semi-rural areas.

Table 4.4

Distribution of Colleges by Location

Location	Frequency	Percent
City (over 150,000)	17	38
Small city	12	27
Town/semi-rural	16	35
Total	45	100

Distribution of Colleges by Province

The geographic distribution of Canadian Bible colleges reflects the strength of constituencies which support these colleges in particular regions. The relatively sparsely populated provinces of western Canada sponsor more institutions than the more densely populated regions. The population shift from rural to urban areas and immigration during the previous several decades may partly explain the current demographic situation affecting the location of Canadian Bible colleges. While approximately 20 percent of the Canadian population lives in Manitoba, Saskatchewan and Alberta, Table 4.5 shows that 64 percent of Canadian Bible colleges are established in these provinces.

Table 4.5

Distribution of Colleges by Province

Province	Frequency	Percent
British Columbia	3	7
Alberta	12	27
Saskatchewan	10	21
Manitoba	7	16
Ontario	6	13
Quebec	3	7
New Brunswick	3	7
Prince Edward Island	1	2
Total	45	100

The institutional profile described in the preceding tables indicated that Canadian Bible colleges have a long history, tend to relate to a clearly defined constituency, tend to be small in size, are located in communities of various size, and though they are located across all regions of Canada the majority of them are located in western Canada. This institutional profile will serve as a basis for the discussion of findings collected from Canadian Bible colleges on the status of institutional research within these institutions.

OPERATING REPORTS

Institutional research includes the research activity which collects data for application in administrative decision-making. Operating reports are reports or summaries of institutional research data associated with student admissions, course registrations and grades, daily transactions in the business office, various student affairs departments, institutional administration, physical plant and maintenance, and all personnel matters. The respondents were asked to report the extent of institutional research in each of 17 areas and then to indicate their perception of the degree of importance of each of those items to the institution.

The detailed categories used in the questionnaire instrument were applied directly from the conceptualization of institutional research developed by Sheehan (1972). As professor and administrator in higher education, Sheehan designed the categories to be fairly simple and self explanatory to educational administrators. Grades/performance, academic calendar, timetable, class lists, field work and full-time/part-time analysis are student related matters. Payroll, procedures manuals, job classification and vacancy/turnover rate are personnel focussed issues. Plan implementation, departmental expense accounting, equipment inventory, external report preparation, data book, space inventory and comparative studies relate to general institutional administration.

Involvement and Importance

Table 4.6 shows the level of involvement and the degree of importance of 17 operating report items. Respondents were asked to use a scale of 0 (no involvement) to 4 (very high involvement) to describe their institution's

participation in operating report research. They were also asked to indicate their perception of the importance of each item to their institution by using a scale of 1 (very low perceived importance) to 4 (very high perceived importance).

Table 4.6

Extent of Involvement and Degree of Importance of Operating Reports in Institutional Research

Type of Operating Report	Involvement Mean	Importance Mean
Grades/performance	3.3	3.4
Academic calendar	3.3	3.4
Timetable	3.3	3.4
Payroll	3.3	3.4
Class lists	3.1	3.3
Field work	3.0	3.3
Preparation of procedures manuals	2.6	3.0
Monitor plan implementation	2.6	3.0
Job classification	2.5	3.0
Departmental expense accounting	2.4	2.9
Full-time/part-time analysis	2.3	2.6
Equipment inventory	2.2	2.6
External report preparation	2.2	2.8
Statistics in data book	2.1	2.8
Space inventory	2.0	2.4
Comparative studies of other institutions	1.9	2.4
Vacancy/turnover rate	1.7	2.1
Average	2.6	2.9

The administrators rated institutional research in operating report areas very nearly the same from current practice to perceived importance. The degree of importance was seen to be higher than current involvement in every type of operating report when means were compared. The areas of highest involvement and perceived greatest importance in operating report research were grades/performance, academic calendar, timetable and payroll. Areas of least importance were space inventory, comparative studies of other institutions and research in faculty and staff vacancy/turnover rate. In all cases administrators perceived that the level of importance was higher than the level of involvement.

Personnel

Respondents were also asked who initiated and who conducted the various types of institutional research. Each respondent was asked to indicate the three institutional officers, departments or other agencies which most often initiated and conducted institutional research in their college. These findings are summarized in Table 4.7.

Presidents and academic deans most often, and by a wide margin, initiated research in operating report areas in Canadian Bible colleges. Governing boards were reported to be the third group most likely to initiate those reports. The business manager was the fourth most likely person to initiate operating report research. The least likely to initiate research in operating report areas were the government or an accrediting agency in Canadian Bible colleges.

Although operating report research was conducted by a wide range of institutional officers at various times, academic deans conducted more research in operating report areas than did other personnel. Presidents,

business managers and registrars were the next most likely institutional officers to conduct operating report research in Canadian Bible colleges.

Some Canadian Bible college personnel conducted much more operating report research than they initiated. According to data summarized in Table 4.7, registrars, student deans, public relations personnel and other unspecified persons conducted far more institutional research in operating report categories than they initiated. Presidents and academic deans of Canadian Bible colleges initiated and conducted more institutional research in operational areas than other college personnel.

Table 4.7

Frequency of College Officers Initiating and Conducting Institutional Research for Operating Reports

Personnel	Initiating	Conducting
President	39	24
Academic Dean	32	32
Governing Board	17	4
Business Manager	15	23
Registrar	9	19
Student Dean	5	10
Public Relations	3	6
Other	1	5
Government, Accrediting Agency	0	0

Effects of Institutional Factors on Operating Report Research

When examining the effect of institutional age, governance, size and location on operating reports data, no statistically significant differences were discovered. (See Appendix E for statistical tables.) It would seem that Canadian Bible college administrators view their involvement and the perceived importance of institutional research in operating report areas similarly, regardless of these distinctions among their institutions.

When examining the effect of the independent variables as defined by the institutional profile categories, presidents of more recently founded, denominational, smaller and small city Canadian Bible colleges initiated more research than did presidents of other colleges. (See Appendix E.) Bible college presidents generally conducted far less institutional research than they initiated. Academic deans initiated and conducted a great deal of operating report research across institutional profile categories. They also conducted more institutional research for operating reports than they initiated, particularly in the smaller Bible colleges.

Resource limitations in smaller Canadian Bible colleges may explain the extent of involvement in institutional research by senior administrators in operational report areas. Involvement in analytical report areas of institutional research is reviewed in the next section.

ANALYTICAL REPORTS

Analytical reports consist of institutional research data collected as operating reports and integrated with other information resulting in historical studies of resource use, activity costs, changing student and course enrollment

patterns that provide decision-makers with an improved understanding not readily deduced from basic statistics of institutional transactions. The respondents were asked to report their institutions' current involvement in 21 items listed under the analytical reports section of the survey questionnaire. In addition, they were asked to indicate their perception of the importance of each item for their institutional management.

Involvement and Importance

Table 4.8 displays the findings related to administrators' perceptions of the level of research involvement and the degree of importance of items in the analytical reports.

Table 4.8

Extent of Involvement and Degree of Importance of Analytical Reports in Institutional Research

Type of Analytical Report	Involvement Mean	Importance Mean
Budget process	3.0	3.3
Faculty instructional load	3.0	3.2
Organizational structure	2.7	2.9
Decision-making process	2.7	3.0
Student services	2.7	3.2
Teaching performance evaluation	2.6	3.1

Table 4.8 (continued)

Type of Analytical Report	Involvement Mean	Importance Mean
Teaching effectiveness	2.5	3.2
External constituency perceptions	2.5	3.3
Program cost analysis	2.4	2.9
Communication/procedures/forms	2.4	2.8
Preparation for accreditation	2.4	2.8
Donor analysis	2.3	3.1
Attitude/opinion surveys	2.3	2.8
Student characteristics	2.3	3.1
Faculty community service	2.2	2.6
Attrition studies	2.1	2.9
Space utilization	2.0	2.3
Graduate followup	2.0	3.0
Student finance studies	1.9	2.6
Marketing strategies	1.9	2.9
Faculty publication productivity	1.4	2.3
Average	2.4	2.9

The means for the extent of involvement in analytical reports ranged from a high of 3.0 to a low of 1.4. The greatest involvement in analytical

reports was in the budget process and in faculty instructional load. The lowest involvement was in research into faculty publication productivity.

The degree of importance ascribed to the 21 items under consideration for analytical report research showed some similarity to the actual extent of involvement in these areas. The means ranged from a high of 3.3 to a low of 2.3. When these were compared with the means that indicated extent of involvement, there was greater importance placed on conducting analytical report research than was actually being conducted in the institutions. The administrators felt that external constituency perceptions were in need of more study. Other reported differences from current involvement to perceived importance were noted in organizational structure, graduate followup, marketing strategies and donor analysis. Respondents indicated that no area of current analytical reports research should be reduced from present involvement levels.

Personnel

Table 4.9 identifies the personnel in Canadian Bible colleges who initiate and conduct institutional research in the 21 analytical report item areas.

Presidents and academic deans most often initiated analytical report research in Canadian Bible colleges. Governing boards, business managers and student deans initiated research in these areas only about one third as often as the senior administrators. Business managers and registrars conducted much more research in analytical report areas than they initiated.

Table 4.9

Frequency of College Officers Initiating and Conducting Institutional Research for Analytical Reports

Personnel	Initiating	Conducting
President	38	24
Academic Dean	32	35
Governing Board	12	2
Business Manager	10	20
Student Dean	9	6
Registrar	7	15
Public Relations	6	8
Other	2	1
Government, Accrediting Agency	1	0

Effects of Institutional Factors on Analytical Report Research

The institutional profile categories (see Appendix E) revealed some statistically significant differences among Canadian Bible colleges with respect to analytical report research. Age of the institution affected the extent of involvement and the perceived importance of analytical report research. The older colleges, founded before 1950, conducted more research in program cost analysis, overall teaching effectiveness/methodology, analyses of student characteristics, and faculty publication productivity than did those in colleges founded since 1950.

The interdenominational colleges conducted much more research in the area of individual teaching performance evaluation than did the denominational colleges. Size of institution affected the extent of involvement in the area of donor analysis, marketing strategies, and publication productivity of faculty with the largest colleges considerably more involved than the smallest institutions. Communication/procedures/forms research was considered more important by colleges of 200 students and larger compared with the smaller institutions.

Governing boards of smaller colleges initiated research to a greater extent than did boards of larger schools. When public relations personnel were involved in conducting analytical report research, they did so primarily in older institutions, larger institutions and in large city colleges.

The environment of the Bible colleges also affected their involvement and perception of importance of conducting research in analytical report areas. Colleges in large and small cities were more involved in researching the budget process than were rural schools. Bible colleges in smaller cities were more concerned about the perceptions of their external constituencies than were colleges in larger cities or in rural areas. Colleges in large cities saw the need to conduct more attrition studies than did colleges in other geographic locations. Administrators of colleges located in cities conducted more research in publication productivity of faculty than did those who served colleges located in rural or town locations.

Presidents of newer, small city and denominational colleges were more likely to initiate and conduct institutional research in analytical report areas than were presidents of other Bible colleges. Presidents of colleges enrolling from 200-299 students were more likely to conduct analytical report research than other presidents regardless of other profile factors. Academic deans who

serve in older, larger and large city location colleges initiated more research in analytical report areas than did academic deans of other Bible colleges. Academic deans conducted considerably more institutional research in analytical report areas than any other personnel with the exception of those serving in new colleges and denominational colleges where the president was involved to a greater extent. Academic deans conducted more analytical research when they were in older, larger and interdenominational colleges than their counterparts in other Canadian Bible colleges.

Canadian Bible college administrators conduct more institutional research in operational report areas than in analytical report areas. When means were compared using t tests and F tests, it was evident that these administrators considered both areas of institutional research to be equally important to the management of their institutions. The forecast report area of institutional research which follows is reviewed in a similar format as were operational and analytical reports.

FORECAST REPORTS

Forecast reports result from the integration of internally collected data with external information that assists administrators in management decisions requiring reliable predictions of future environmental conditions.

Involvement and Importance

Institutional administrators were asked to indicate the extent of involvement and perceived importance of 10 items listed in the forecast reports section of the questionnaire. These items included institutional

priorities, various areas of planning and anticipated faculty movement. Forecast reports research is based on previously gathered data and depends on the quality of those data whether internally or externally derived. Table 4.10 displays the extent of involvement and perceived importance of forecast report research in Canadian Bible colleges.

Table 4.10

Extent of Involvement and Degree of Importance of Institutional Research in Forecast Reports

Type of Forecast Report	Involvement Mean	Importance Mean
Institutional goals and priorities	3.2	3.5
Physical plant planning proposals	2.7	3.0
Long range planning	2.6	3.3
Enrollment planning	2.5	3.2
Funding planning	2.5	3.1
Faculty flow	2.2	2.5
Program enrollment prediction	2.2	3.0
Develop budget allocation formulas	2.1	2.7
Course demand forecast	2.0	2.7
Faculty mobility	1.9	2.4
Average	2.4	2.9

Institutional goals and priorities ranked as the highest area of research involvement in forecast reports. The next several items, including physical plant planning proposals, long range planning, enrollment planning and funding planning, were closely grouped. The remaining items were also closely grouped.

Though the importance of the forecast report items was ranked similarly to the extent of involvement, there were two exceptions. Respondents placed less importance on physical plant planning and faculty flow proposals than the extent of involvement in these areas.

Personnel

Table 4.11 identifies the college officers who initiate and conduct forecast reports research in Canadian Bible colleges. Research initiated and conducted in forecast report areas requires that involved personnel understand the institutional mission, the administrative problems being faced and how to utilize the technology available to produce useful data for decision-making. Institutional research conducted in forecast report areas deals with the progressively more complex issues of college administration.

Presidents and academic deans initiated and conducted more forecast report research than did other institutional personnel. In forecast report research, the president initiated proportionately more research than did the academic dean when compared with operating and analytical report research. Conversely, the academic dean was the person who most often conducted this research. College boards and business managers were the next most likely to initiate forecast report research.

Table 4.11

Frequency of College Officers Initiating and Conducting Institutional Research in Forecast Reports

Personnel	Initiating	Conducting
President	38	29
Academic Dean	27	31
Business Manager	19	20
Governing Board	19	6
Public Relations	7	9
Registrar	5	12
Government, Accrediting Agency	2	0
Student Dean	1	4
Other	1	4

Effects of Institutional Factors on Forecast Report Research

Using the institutional profile categories, it was evident that the age and environment of the college had a lot to do with the extent of forecast report research conducted (Appendix E). Colleges in the largest communities were more involved with funding planning, program enrollment prediction, long range planning and enrollment planning than were colleges located in smaller communities. Canadian Bible colleges located in smaller cities placed more importance on course demand research than did those in either larger or smaller communities.

The older colleges reportedly did more budget allocation study, program enrollment prediction, long range planning and program enrollment prediction than did the newer colleges. In one case the largest colleges also were involved with more enrollment prediction than smaller colleges.

Following the institutional profile categories, presidents of denominational colleges initiated and conducted more research in forecast reports than did other personnel. Generally, presidents initiated more research than did other personnel, but they also conducted more forecast report research when they were presidents of newer, smaller, town or semi-rural colleges, and denominational colleges. Business managers and governing boards initiated substantial amounts of research in forecast reports across all Canadian Bible colleges, and they did so especially in denominational and smaller enrollment colleges. Academic deans of Canadian Bible colleges that are well established, governed by a denomination, larger in size and located in larger centers conducted more forecast report research than did other Bible college deans.

Canadian Bible colleges engaged in a wide range of institutional research activities as evidenced by collected data. These data were collected along with responses to open-ended questions. The following section will review responses made by participants to open-ended questions about the conduct of institutional research in each college.

RESPONSES TO OPEN-ENDED QUESTIONS

There were eight questions intended to probe more deeply than the scaled questions were able to do into the nature and scope of institutional research. Figure 3, below, provides a composite of the responses received to

the question which asked respondents to sketch or attach to the questionnaire an organization chart which would indicate reporting lines, including all persons involved in institutional research.

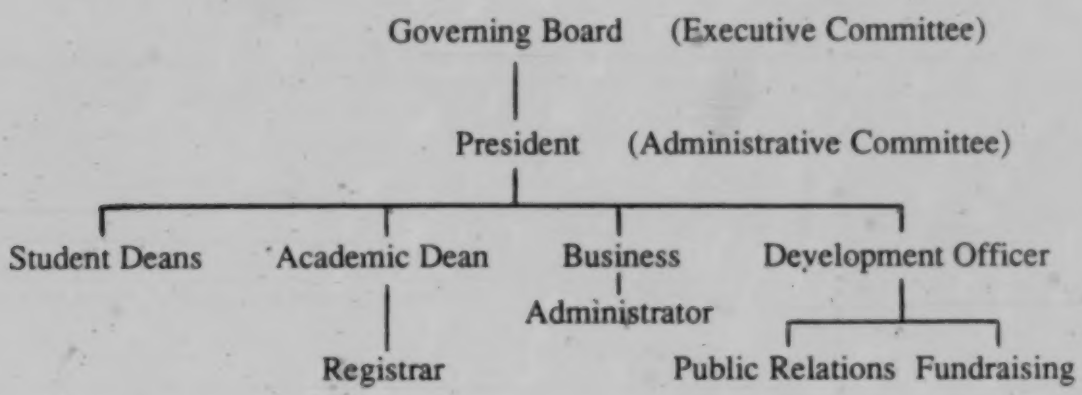

Figure 3.

Composite Organization Chart Including Personnel Involved in Some Aspect of Institutional Research In Canadian Bible Colleges

This chart included all personnel mentioned by any of the colleges in previous sections of the questionnaire. Colleges were not identical in their organization, but a variety of personnel were involved with institutional research. Included under the "other" designation in the questionnaire were various secretarial or professorial individuals. At times volunteers from the constituency initiated and conducted institutional research on behalf of the college.

Canadian Bible colleges are governed and administered through an hierarchical structure as defined in Figure 3. It is evident that governing

boards conduct some of their business through an executive committee which functions between regular board meetings. The presidents also delegate specific daily functions to the senior administrators within institutions. These senior administrators have responsibility for student services, academic matters, business affairs and development programs. Involved in academic administration, for example, are internal academic issues as well as interinstitutional or government matters having to do with accreditation, transfer of credit, providing data and cooperation on matters of mutual benefit. The development office could include regular college personnel, volunteers and persons seconded from other institutional functions or from some other area of a larger organization such as a religious denomination. Clearly no distinct institutional research office existed in any Canadian Bible college. Records were kept manually or mechanically in separate office where the data were used for daily operation. Institutional research studies would identify available data and then organize such data into usable forms for decision-makers in Canadian Bible colleges.

Table 4.12 presents the responses to the question inquiring about funding practices for institutional research. Institutional research funds are not normally budgeted in Canadian Bible colleges. Funds and human resources are recruited from existing personnel and budgets when research is initiated. Because funds are rarely budgeted separately for institutional research, financing such projects requires administrative confidence in researchers, data collected and anticipated benefits for effective decision-making. Table 4.12 provides some understanding of institutional research funding practices, while indicating that there are many ways in which institutional research activities are paid for once they are initiated. Since presidents and academic deans initiate and conduct most of the institutional

research in Canadian Bible colleges, it is evident that they also possess the influence to fund these activities which seem to be of the greatest perceived value in decision-making.

Table 4.12

Funding Practices of Institutional Research Among Canadian Bible Colleges

Responses	Frequency
Drawn from general funds, not budgeted separately	14
Existing staff conduct research including faculty at times	9
Departmental budgets charged depending on project	3
During accreditation process, funds budgeted separately	2
Initiating office would normally pay costs of research	1
For special research, board must approve larger amounts	1
Leftover funds from budget year spent on institutional research	1
Invite volunteer help from board or wider constituency	1
Raise funds for special or costly institutional research	1
Total	33

Tables 4.13 and 4.14 present responses of Canadian Bible college administrators to the question, "Identify instances during the last 5 years when results of institutional research had an obvious influence upon administrative decisions in your institution." Table 4.13 relates to decisions made as a result

of internally conducted research, and Table 4.14 refers to decisions made following the use of externally conducted institutional research.

Table 4.13

Influence of Internally Conducted Institutional Research on Administrative Decisions

Responses	Frequency*
Student concerns on campus	8
Enrollment trends affected by constituency perceptions	8
Graduate placement	7
Constituency perceptions of curriculum	7
Alumni relations	6
Capital expansion plans	4
Institutional self-study prior to presidential search	4
Faculty attitudes and competencies	3
Music self-study	3
Institutional mission as viewed by defined constituency	3
General institutional self-study for accreditation	3
Library self-study	2
Salary analyses	2
Other	11
Total	71

* More than one response was provided by some administrators.

Table 4.14

Influence of Externally Conducted Institutional Research on Administrative Decisions

Responses	Frequency
Accrediting association standards	4
Student perceptions of morality in Alberta Bible colleges	2
Public perceptions of religious colleges	1
University study of non-affiliated colleges in Manitoba	1
Statistics Canada data	1
Total	9

Canadian Bible colleges have been influenced by institutional research in their decision-making. The areas of decision-making most often influenced by internally conducted institutional research were student concerns, constituency perceptions of enrollment trends, graduate placement, constituency perceptions of curriculum and alumni relations. Externally conducted research also influenced decision-making in Bible colleges, especially in accrediting standards and student perceptions of morality.

Canadian Bible college administrators were asked to cite advantages and disadvantages of internally conducted research. Tables 4.15 and 4.16 present these responses.

Table 4.15

Advantages of Internally Conducted Institutional Research

Advantages	Frequency*
Decisions more likely based on evidence than fiction	18
Research process generates greater ownership of resulting decisions	14
Provides awareness in institutional "blind spots"	9
Aids in prioritizing areas of need	4
Excellent source of feedback in non-threatening way	4
Helps in determining whether issue is temporary or trend	3
Data base development becomes asset for future research	2
Research done by internal personnel likely more accurate	2
Less costly than mistakes caused by inadequate information	2
Other	7
Total	65

* More than one response was provided by some administrators.

Table 4.16

Disadvantages of Internally Conducted Institutional Research

Disadvantages	Frequency*
Places more work on busy people as extra personnel aren't available	7
Unavoidable subjectivism may influence findings	7
Time taken for research may slow down decision-making	5
Expending resources unnecessarily in a time of constraint	4
Complicates decision-making exposing too many alternative viewpoints	4
Poor record of implementation becomes a discouragement to personnel	4
People involved may feel intimidated when evaluating their own work	3
Feeling that questionnaire wording creates problem where none existed	3
Suspicion that evaluation by human method precludes advice from God	2
Lack of expertise to conduct valid research among college personnel	2
Research done, problems seem eliminated without implementation	1
Total	42

* More than one response was provided by some administrators.

The most frequent advantages cited by Bible college administrators of internally conducted institutional research were that decisions would more likely be based on fact and that the process of research generates ownership of resulting decisions. Regarding disadvantages of internally conducted institutional research, administrators most frequently suggested that

institutional personnel were already too busy and that their familiarity of the institution would result in unavoidable subjectivism.

Administrators were asked, "What are some advantages of seriously considering institutional research conducted by other institutions for application to yours?" and, "Are there disadvantages to this?" Their responses are summarized in Tables 4.17 and 4.18.

Table 4.17

Advantages of Considering Findings of Institutional Research Conducted by Other Institutions

Advantages	Frequency*
Save resources	12
May provide objectivity that internal assessment cannot	10
May provide insight/point of reference for local decisions	10
Exposure to research questions that hadn't been considered	8
Understanding may avoid decision about a temporary local situation	5
Confirm that there are obvious similarities and differences	4
Provide incentive to improve or avoid "something"	3
Affirm current practice or realize that others face similar problems	3
Other	2
Total	57

* More than one response was provided by some administrators.

Table 4.18

Disadvantages of Considering Findings of Institutional Research Conducted by Other Institutions

Disadvantages	Frequency*
Not specific to local situation so require adaptation	13
Institutional differences may be more significant than expected	8
Costs of acquired research materials with suspect or unknown quality	7
Implementing another institution's conclusions lacks ownership	7
Jumping to solution ignores value of self-study process	5
Research minor area of one college applied as major area elsewhere	1
Total	41

* More than one response was provided by some administrators.

The advantages of considering research conducted by other institutions were that they would save resources and provide objectivity, insight and exposure to previously unconsidered questions. The administrators also cited several disadvantages including: not specific to situation; suspect quality of research; and lacks value of self-study. Bible college administrators have indicated a balanced view of institutional research value, suggesting theoretical and practical advantages and disadvantages in response to survey questions.

Finally, Bible college administrators were asked to comment on any other areas of institutional research which had not been addressed by the survey questionnaire. These responses are presented in Table 4.19.

Table 4.19

Additional Aspects of Institutional Research Suggested by Respondents Not Included in Survey

Apects	Frequency*
Assign skilled researchers to do institutional research	2
For acceptance, research findings must be implemented in decisions	2
Don't underestimate common sense, a questioning mind, observation	1
Avoid following statistics blindly. Ask for parameters of the research	1
Gaps between "involvement" and "importance" due to internal changes	1
Colleges need interinstitutional studies to respond to market trends	1
Staff and constituency opposition to research is major barrier	1
Colleges drift toward institutional similarity using external research	1
Total	10

* Some administrators did not respond to this question.

Some thoughtful responses were offered by Canadian Bible college administrators to the last question. The greatest concerns expressed were that skilled personnel should conduct institutional research, and that college administrators must take leadership in implementing findings of research in institutional decisions. Concerns regarding finances, available human resources, applicability of research, credibility of research and perceived

benefits of institutional research were stated previously in a variety of ways in response to open-ended questions.

RESPONSES TO FOLLOWUP INTERVIEW

The questions used to guide each interview were designed to probe more deeply into the actual workings of institutional research in the Bible college environment. Each administrator who was interviewed cooperated fully by taking all the time needed to conduct the interview following the guide developed for data collection. Those college administrators interviewed represented a wide array of Canadian Bible colleges in terms of the profile categories defined previously.

Table 4.20 presents responses of college administrators to a question about the most useful applications of institutional research in college operations. Respondents felt that more institutional research was needed in their institutions without regard to what focus that research took. When specifics were requested, the administrators cited a wide array of subjects in which they would have appreciated additional data.

College administrators saw the greatest value of institutional research in areas of curriculum, student issues, self-study and long range planning. Since any comments could aid in a better understanding of institutional research activity in Canadian Bible colleges, all responses by administrators were reproduced in this section. Most useful applications of institutional research confirm previous responses on the questionnaire where respondents indicated that data collection and further study of curriculum issues, self evaluation and planning aspects were valuable. Student trends and issues pointed to the need for more of this kind of research within institutions,

and the importance that college administrators utilize research on the subject wherever it can be found. The remaining applications suggested were all evident in other responses provided in data collection. Particularly prominent were involvement and importance of research of donors, constituency, students and other institutions.

Table 4.20

Most Useful Application of Institutional Research in Canadian Bible College Operations.

Application	Frequency*
Curriculum development	3
Student trends, issues	3
Institutional self-study	2
Long range planning	2
Fund raising	1
Constituency perspectives	1
Higher education trends	1
Recruitment/retention	1
Total	14

* More than one response was provided by some administrators.

Tables 4.21 and 4.22 present internal and external factors which tended to increase institutional research activity in Canadian Bible colleges.

The most common internal factors which increased institutional research activity were financial crises, presidents and student concerns. Clearly, presidents have been reported to initiate more institutional research than any other college personnel across all Canadian Bible colleges, and in all types of institutional research areas defined by the conceptual framework. The situation where a new president joined the administration of a college often provided the condition for increased institutional research. In fact, the respondents indicated that soon after a serving president stepped down for any reason, the institution engaged in a great deal of institutional research. Several reasons were given for this. Concern for the governing board that the outgoing president conclude any initiatives requiring attention as well as providing a "clean slate" for the new person to be hired. Presidential candidates were also given fairly complete institutional statistics in order to respond to questions which would undoubtedly be asked.

Previously, financial crises had not been stated directly. No doubt, presidents and college boards would initiate studies of departmental expenditures, donor analyses, student accounts and attrition assessments when financial reverses were identified. This observation heightens the need for ongoing institutional research to aid in anticipating financial constraints, and may point out a weakness in occasional or project-only types of institutional research. Student concerns have been identified previously as an area of high involvement and importance, according to Table 4.8, in which analytical reports in student services were cited.

Table 4.21

Internal Factors That Tend to Increase Institutional Research Activity in Canadian Bible College Operations

Internal Factors	Frequency*
Financial crises	5
Presidential initiative or presidential change	4
Current student concerns	4
Faculty concerns	2
Board decisions	1
Organizational restructuring	1
Concern about future direction	1
Total	18

* More than one response was provided by some administrators.

Other internal factors included items which were highlighted in previous sections. Factors such as faculty concerns, board decisions and organizational restructuring specified unique aspects not mentioned previously in those terms. Concern about the future direction of a college would certainly be involved in any study of planning procedures, constituency perceptions or financial viability. Internal factors listed by administrators have clarified previous responses provided in the survey.

External factors also provided incentives for institutional research to be conducted. Table 4.22 presents responses of Bible college administrators to

the question of external factors that tended to increase institutional research activity.

Table 4.22

External Factors That Tend to Increase Institutional Research Activity in Canadian Bible College Operations

External Factors	Frequency*
Constituency reaction	6
Accreditation process	6
Changes in environment	3
Denominational requirements	2
Alumni concerns	1
Government regulations - qualification, taxation, etc.	1
Total	19

* More than one response was provided by some administrators.

Most common external factors which tended to increase institutional research in Canadian Bible colleges were constituency reaction, accreditation and environmental changes. Constituency reactions are very important to Canadian Bible colleges as their operation depends to a large extent on the good will of those persons. Environmental change was seen by the administrators as changes over which they had little or no control. One insightful comment suggested that Bible colleges were at times "surprised" by

conditions which had been occuring over several decades yet without response by the institutions. Other external factors listed were denominational requirements, alumni and government.

In addition to the more formal institutional research activities which were conducted, administrators also engaged in informal, perhaps more subjective institutional research. Administrators were asked to comment on the extent of informal institutional research that was carried on in their institutions. These responses are presented in Table 4.23.

Table 4.23

Extent of Informal Institutional Research Conducted in Canadian Bible College Operations

Extent of Informal Research	Frequency
75% based on administrator longevity	3
Veteran president has numerous insights	2
80% on nearly any issue	1
New president defers to experienced administrators	1
Most often done in committee not by individuals	1
Where data are thought to be unavailable	1
70% on non-policy issues	1
Less than 50% on soft issues primarily	1
Cautious consensus on long range planning or major financial issue	1
Total	12

Administrator longevity emerged as the most likely situation in which informal institutional research was conducted. Some administrators estimated the extent of informal research conducted in their institutions by including a percentage related to the number of decisions made. The importance of issues and the safety of committee discussions were also offered as criteria when informal institutional research was acceptable. Time constraints and scarce resources, aspects which were mentioned earlier as difficulties in conducting institutional research, may be useful in understanding the perception that most decisions were handled informally by long-term senior administrators.

Long term administrators would be expected, according to the respondents, to identify a few reliable indicators upon which they would depend for decision-support. The literature would support this observation with the thinking of Simon (1957) regarding "bounded rationality" and the research cited by Hackman (1983) which determined that expert decision-makers make use of only a few cues in their decision-making. The collegial atmosphere in higher education institutions and particularly in smaller ones provides further support for the perception of the extent of informal research conducted in Canadian Bible colleges.

Informal institutional research conducted by Bible college administrators depends on several factors most likely to include longevity of the decision-maker, safety of a committee and the seriousness of the issue (seriousness is also handled, though differently, in Table 4.24). Bible college administrators are in this way similar to decision-makers in other enterprises.

The administrators of Canadian Bible colleges were also asked to indicate which factors influenced the decision to proceed with formal institutional research. These responses are displayed in Table 4.24.

Table 4.24

Factors Influencing Decision to Proceed with Formal Institutional Research

Factors	Frequency
Seriousness such as financial, reputational, enrollment	3
Uncertainty of any significance including having all the facts	2
Accrediting agency standards	1
Internal disagreement	1
Verify a rumour - followup stakeholders	1
Sample key committee with agenda item	1
Available resources of people, time and money	1
Curriculum issue	1
Willingness to wait for data collection	1
Total	12

Seriousness of the issue under consideration was cited as the usual factor that influenced the decision to proceed with formal institutional research. Several administrators clarified their responses to the questions summarized in Tables 4.23 and 4.24 by stating that the judgment of the decision-maker regarding the issue was crucial. They felt that "soft" issues, defined as low resource commitment or temporary in nature, were much more likely to be decided informally. Other factors forcing formal institutional research

activity mentioned were curriculum issue, disagreement, externally forced standard, available resources and the willingness to wait for research to be conducted. When combined with the responses from Table 4.23 which depicted incidence of informal research, it was evident that experience and longevity of senior administrators may also affect their decision to initiate or conduct formal institutional research.

Table 4.25

Types of Support Offered for Decisions Made in Canadian Bible College Operations

Types of Support	Frequency*
Support of internal administration and faculty	3
Appropriate issue-specific defense	3
Matter-of-fact, pragmatic response	2
Dealt with personally often by president	1
Refer to institutional mandate	1
Appeal to widely observable phenomenon	1
Exceptional situation - not policy	1
Refer to policy	1
Common practice among other Bible colleges	1
Total	14

* More than one response was provided by some administrators.

A part of decision-making is the process involved. Constituencies of Canadian Bible colleges expected some explanation by the administration or the governing board in defence of institutional decisions. Table 4.25 describes the types of support which institutions offered their supporters in defending decisions, while Table 4.26 presents the types of decision-support which college constituencies expected from their institutions.

Table 4.26

Types of Decision Support Expected by Constituencies of Canadian Bible Colleges

Types of Decision Support	Frequency*
Action consistent with other similar institutions	4
Literature search done	3
No deviation from status quo	2
Doing what most members of the constituency want	2
Needs assessment done	2
Consistent with sense of God's will	2
Depending on student outcomes, will agree with anything	1
Total	16

* More than one response was provided by some administrators.

Canadian Bible colleges offered their constituencies certain kinds of defense such as internal support and issue-specific pragmatic answers for questions about decisions. In the view of college administrators their constituencies wanted the institutions to be similar to other Bible colleges and to have conducted some literature searches on the subject.

It was evident from responses provided by the administrators that there was some discrepancy. While the institutions offered support related to internal agreement and response to specific issues, constituencies were perceived to desire action consistent with the status quo in similar institutions. The administrators believed that their supporters wanted them to avoid risk, consult other institutions on issues and generally do what the majority of the constituency expected. Several suggested that the conservative nature of their alumni and friends negatively affected efforts to innovate in institutional matters.

There was also the sense among the administrators interviewed that their more urban constituents either had already dismissed them as irrelevant or were extremely interested in how the institutional leadership carried on college work. Rural college administrators mentioned that their constituents who lived in smaller communities had become much more interested in the day to day operation of the Bible college especially where matters involved the expenditure of money. Strict financial accountability was expected by all.

The administrators of Canadian Bible colleges were further asked to indicate ways that their institutions published institutional research findings. It was felt that regardless of the type of justification offered to constituents, the way in which research findings were disseminated would provide insight into administrative responsibility and commitment to decisions. Table 4.27 presents these responses.

Table 4.27

Ways Institutional Research Findings are Published in Canadian Bible Colleges

Findings Published	Frequency*
College publications and by general public relations means	4
Annual meeting of denomination	2
Annual update to constituency	2
Regional constituency meetings	2
Personal verbal communication	1
Denominational publications	1
Not much - view any information giving as possible threat	1
President's newsletter	1
Not much - assume support of constituency	1
Total	15

* More than one response was provided by some administrators.

Canadian Bible colleges depended largely on general communication vehicles such as institutional written publications, annual meetings held at the college campus and regional constituency updates which may have been conducted by college personnel or through some form of mediated communication for disseminating institutional research findings. Some colleges apparently did not communicate very extensively with their

constituencies for fear of some misunderstanding, or they simply assumed their unquestioned support. There appeared to be consistency between the perceptions of college administrators as to the desires of their constituents and the actual communication vehicles chosen for accountability.

Administrators of Canadian Bible colleges were also asked to respond with ways they thought that institutional research could be strengthened in their colleges. They were also asked to state the perceptions they had concerning the value of institutional research in financial and public relations areas as well as in developing a Canadian Bible college data bank. These three areas of responses are summarized in Tables 4.28, 4.29 and 4.30.

Table 4.28

Ways Institutional Research Could be Strengthened in Canadian Bible College Operations

Ways to Strengthen	Frequency*
Better equipment - computers, software, storage-retrieval technology	5
Personnel help especially skilled in institutional research methods	4
Improvement of attitude toward evaluation	4
Personnel time to conduct research	2
Administrative training for administrators	1
Total	16

* More than one response was provided by some administrators.

The Bible college administrators believed that with better equipment and technology, additional staff and changed attitudes, institutional research practices could be strengthened. These views coincided with prior responses given in terms of disadvantages of internally conducted institutional research displayed in Table 4.16.

Table 4.29

Perceived Value of Institutional Research Conducted in Financial and Public Relations Areas of Canadian Bible Colleges

Value of Institutional Research	Frequency
Will need more in future - crucial	8
Some value but kept at low-key level	2
Little value when limited by external fund-raising restrictions	1
For capital projects especially	1
Total	12

There was strong support for more institutional research in financial and public relations areas, and some apprehension about keeping efforts low-key and the ability to benefit from such research due to denominational constraints.

While half of the respondents saw great value in a variety of areas where institutional research could be beneficial, others doubted any great value or saw the need to avoid sensitive financial data. Two respondents felt

that regional comparisons would be more beneficial than national data banking. Some apprehension by administrators in sharing data may have stemmed from the need for these privately funded institutions to guard traditional support bases. Geographically based comparisons in parts of Canada where regional disparities have been widely documented would seem to be sound advice for Bible colleges faced with similar challenges.

Table 4.30

Perceived Value of Canadian Bible College Data Bank for Conducting Institutional Research

Value of Data Bank	Frequency
Useful for salary scale, per-student cost, recruitment, trends, etc.	6
Not likely of great value	2
Regional comparisons would be of more value	2
Must avoid specific fund-raising data	2
Total	12

In the last part of the interview, administrators were asked to state the challenges facing their institutions during the next five years, and to add any further comments about aspects of decision-making or college operations with respect to institutional research. The literature identified the perception that when administrators were able to anticipate institutional challenges, they were

more willing to conduct the necessary research prior to making decisions. Their responses are presented in Tables 4.31 and 4.32.

Table 4.31

Administrative and Institutional Challenges Expected in the Next Five Years by Bible College Administrators

Challenges	Frequency*
Enrollment management - recruitment, fluctuations	6
Budget considerations - broadbase fund-raising, solvency	6
New program development	4
Personnel - recruitment/selection, faculty development	2
Consolidation of resources - networking, consortium, merger, etc.	1
Governing board development	1
Institutional vitality	1
Communication with constituency	1
Adjusting to changes in the marketplace	1
Doing more with proportionally less money	1
Diversifying in non-traditional ways	1
Campus facilities development	1
Total	27

* More than one response was provided by some administrators.

Enrollment management and budget considerations headed the list of challenges expected by Bible college administrators. Other areas of challenges cited were new program development, personnel, resource management, institutional vitality, communication with constituency, developing campus facilities and adjusting to change. This was a difficult question for those administrators interviewed because several of them considered that problems faced by their institutions were so great that they threatened institutional existence. The range of responses indicated the existence of many challenges.

Table 4.32

Responses to Open-Ended Question about Operations and Decision-Making in Canadian Bible Colleges

Responses	Frequency
Develop better internal decision-making frameworks	3
Better communication by president with board	2
Must learn skills of using data for decision-support	1
More board involvement needed	1
Should move from church-like decision-making style	1
Academics fear decision-making if they lack knowledge in the area	1
Administrators should listen to student views	1
Need less formal management of athletics and recreation	1
More personal benefit faculty enrichment less professional focus	1
Total	12

Canadian Bible college administrators identified themselves as needing to improve decision-support systems and to become better communicators. They saw the need to become more personal in their many activities. During a time when technology use is increasing in areas such as institutional research in Canadian Bible colleges, it is not surprising to observe that college administrators see the need for greater personal contact in improving decision-making and in constituency communications. Wide constituency involvement seemed to be the desire of those interviewed even though they admitted that this greater involvement by more people would complicate the lives of institutional administrators. The administrators believed that greater constituency participation would require much greater institutional research involvement by administrative team members.

SUMMARY

This chapter contained an analysis of the extent of involvement in institutional research by personnel in Canadian Bible colleges in a range of activities under three general categories of institutional research. In addition, data were presented relating to the involvement of institutional personnel in initiating and conducting institutional research. Finally, open-ended and interview question responses were summarized and analyzed.

The data indicated that the activities of Canadian Bible colleges in institutional research were diverse in nature, and were initiated and conducted by many persons. Presidents and academic deans were the most involved in all aspects of institutional research. They regretted the lack of resources to

conduct more institutional research in order to improve decision-making in college operations.

Presidents of newer, denominational and smaller colleges tended to conduct more institutional research than their counterparts in other Bible colleges. When considering the categories of institutional research, presidents of the largest colleges initiated and conducted much more forecast report research than either operating or analytical report research. The typical Canadian Bible college president spent a great deal of time initiating all kinds of institutional research, and conducting particularly more forecast reports research than the other kinds. Academic deans emerged as the busiest institutional researchers in Canadian Bible colleges. The typical academic dean of a Canadian Bible college tended to be more active initiating and conducting institutional research in operating and analytical report areas and less involved with forecast reports.

Canadian Bible colleges tended to utilize existing resources to finance institutional research rather than budgeting separately for this activity. They identified many areas in which institutional research findings were influential in affecting administrative decision-making. The administrators offered more advantages than disadvantages for considering either internally or externally obtained data. Canadian Bible college administrators reported many diverse ways in which they have utilized institutional research for decision-support and ways that they published findings of such research. Future challenges for Canadian Bible colleges included the need for decision-support research.

CHAPTER 5

DISCUSSION OF FINDINGS

The purpose of this study was to determine the status of institutional research in Canadian Bible colleges. The sub-problems set out for this study are stated below and discussed in this chapter.

1. Identify the nature and extent of institutional research activities in Canadian Bible colleges.

2. Identify the perceived importance of institutional research activities for college programs by senior administrators of Canadian Bible colleges.

3. Determine the persons who direct institutional research in Canadian Bible colleges.

4. Determine the organizational arrangements for institutional research in Canadian Bible colleges.

5. Determine the extent of financial commitment to institutional research in Canadian Bible colleges.

6. Examine the effect of institutional age, governance, size and location on perceptions of the status of institutional research in Canadian Bible colleges.

Each of the sub-problems will be discussed in the following sections. The first section deals with the extent of involvement of Canadian Bible colleges in institutional research activities. Section two deals with the degree of importance of each of the institutional research activity areas. Section three deals with the institutional officers who are involved with institutional

research in those colleges and section four contains a discussion of the findings related to the organizational arrangements for institutional research in Canadian Bible colleges. The fifth section of this chapter addresses sub-problem five and contains a discussion of the findings regarding the commitment of Canadian Bible colleges to institutional research and its application in college operations. The final section of this chapter contains a discussion of the findings related to sub-problem six.

Extent of Involvement in Institutional Research Activities

The literature review indicated that the availability of microcomputers has placed the most advanced tools of institutional research at the disposal of smaller postsecondary institutions. Furthermore, Mayhew (1983:65), stated that, "Small postsecondary institutions deal with similar complexities and information needs as do larger enterprises [and] it is important that information is maintained in an accurate and timely manner." Table 5.1 presents the way in which Canadian Bible colleges keep institutional records.

Canadian Bible colleges recorded institutional data manually, but with some computer assistance. Sixty-five percent of the colleges filed records manually in either central offices (47%) or in separate offices (18%). Thirty-five percent kept records manually with some computer assistance either in central (22%) or separate (13%) offices. Aron (1969) and Cohen (1979) indicated that system-wide decisions require access to departmentally collected and stored data. Institutional computer systems though more costly initially, become cost-effective after multiple system-wide decisions are affected using all relevant information. Canadian Bible colleges were not using computer assistance to the extent that it was available to postsecondary institutions. They have thereby justified the accusation of Jedamus (1984:77),

who stated that higher education administrators largely ignored the incredible resources available through institutional research as a decision-support system.

Table 5.1

Institutional Record Keeping in Canadian Bible Colleges

Records Kept	Frequency	Percent
Filed manually in central office	21	47
Manually and computer-assisted in separate offices	10	22
Filed manually in separate offices	8	18
Manually and computer-assisted centrally	6	13
Total	45	100

Table 4.20 presented the perceptions of Bible college administrators as to the most useful applications of institutional research. The administrators identified curriculum development, student issues, self-study and long range planning as the areas where institutional research was most useful to them. The usefulness of an activity may affect the extent of involvement and the perceived importance of that activity. Items comparable to those in Table 4.20 found in Tables 4.8 and 4.10 indicated somewhat lower involvement in these areas, but the perception of the importance of these aspects of administration was much higher. For example, in Table 4.8 the involvement in research of faculty instructional load, student services, teaching

performance evaluation, teaching effectiveness and student characteristics was relatively high while the perceived importance was much higher. Bible college administrators were consistent in their views as reported in those two tables. Institutional self-study and long range planning, though mentioned with less frequency in Table 4.20, were similarly identified as crucial in current involvement in Table 4.10 and given even more importance in the rankings by college administrators.

Major factors identified by administrators, in Table 4.21, which tended to increase institutional research activity were not ranked as highly in Tables 4.6, 4.8 and 4.10. For example, financial crises were most often mentioned as internal factors that tend to increase institutional research but departmental expense accounting which could alert administrators to operational problems was ranked 10th on a list of 17 items in Table 4.6. Similarly, program cost analysis ranked 10th, donor analysis 13th, attrition studies 16th and student finance studies ranked 19.5 on the 21 item analytical reports Table 4.8. In forecast report areas, Table 4.10, the institutions ranked funding planning 4.5 and development of budget allocation formulas 8th on the list of 10 items. Other items with financial implications were ranked low, such as program enrollment prediction 6.5 and course demand forecast 9th.

It was unclear from the data whether the institutional administrators of these smaller Bible colleges were not aware of the impact on economics of many areas which were ranked lower than expected, given the ongoing financial constraints which these postsecondary institutions face. Perhaps the fact that only top administrators of Canadian Bible colleges were asked to respond to the study may explain the apparent lack of awareness of the more subtle financial implications of many areas of operation.

Other frequently mentioned factors which related to increased institutional research activity were presidential initiative or change and current student concerns. Clearly, presidential initiative has been demonstrated by Tables 4.7, 4.9 and 4.11 in which the presidents' involvement was detailed along with other institutional personnel. Student concerns were researched as presented by student services ranked 4th, attitude opinion surveys and student characteristics both ranked 13th in Table 4.8 the analytical reports table. The student concerns issue did not seem to receive adequate attention based on the priority given to it by college administrators as reported in Table 4.21. However, when data presented in Table 4.13 are considered, influence of internally conducted institutional research that affects administrative decisions regarding student concerns on campus, they were most frequently mentioned by the administrators. Student issues evidently are the subject of a great deal of institutional research and administrators place high importance on research findings.

Important external factors, reported in Table 4.22, which tended to increase institutional research activity were constituency reaction and accreditation process. External report preparation ranked 11.5 in Table 4.6, external constituency perceptions ranked 7.5, and preparation for accreditation ranked 10th in Table 4.8, affecting the extent of institutional research in analytical report areas but these were not as highly ranked as one might expect from the responses of administrators presented in Tables 4.21 and 4.22. Again, considering responses of administrators reviewed in Table 4.13, constituency concerns influenced administrative decisions on subjects such as enrollment, curriculum and institutional mission. In fact, constituency perceptions on these subjects accounted for 25 percent of the total responses recorded in Table 4.13.

The literature review suggested that the external environment will place new demands on postsecondary institutions requiring them to change their operations or face negative consequences. The administrators of Canadian Bible colleges seemed to be aware of this possibility because they also cited the accreditation process, changes in their environment, denominational requirements, alumni concerns and government regulations as external factors most likely to increase institutional research activity in their institutions (Table 4.22). No doubt administrators of privately funded colleges would readily see the need to take general constituency concerns seriously since these colleges are completely dependent on this source for financial support.

The literature also suggested that administrators would be wise to monitor internal data and engage in comparative study of other institutions realizing the compexity of the world and one's inability to make use of all available data. Batson (1983) suggested that trouble spots could be identified from careful evaluation of data gathered internally and in other similar institutions. Simon (1957) and more recently Hackman (1983) indicated that the human limitation in regard to adequate problem solution using available data results in the development of coping strategies by decision-makers. Decision-makers were found to rely on only a few cues, according to Hackman (1983:196). Canadian Bible college administrators may avoid obvious pitfalls by conducting extensive institutional research on a wide range of topics.

Evidently, Canadian Bible colleges were involved in the wide range of activities described in the conceptual framework. They were involved in conducting institutional research in operating, analytical and forecast report areas defined by Sheehan (1972). The extent of involvement in institutional research activities by Canadian Bible colleges will be more clearly understood

when compared with the degree of importance placed on these activities by institutional senior administrators.

Degree of Importance of Institutional Research Activities

The degree of importance placed on an activity gave the researcher insight into the views of persons being consulted. Under the planning heading of the literature review, effective academic administrators were stated to be those who have a clear vision of the institution's priorities and have learned to balance the demands of internal and external publics. Tables 4.6, 4.8 and 4.10 also presented the perception of Bible college administrators of the importance of institutional research practices drawn from the conceptual framework used to conduct this study. The average mean was considerably higher in each of the areas compared to the actual institutional involvement reported earlier. This stated degree of importance could be a positive factor for Canadian Bible colleges if one can infer any increase in future institutional research activity based on these findings.

It was also useful to notice the areas where degree of importance was ranked higher than actual practice, indicating possible future rearrangement of institutional research priorities by administrators. An example of this was evident when comparing the extent of involvement with the degree of importance of analytical report research. While the budget process and faculty instructional load were ranked as the highest current involvement priorities, faculty instructional load was displaced by external constituency perceptions as the highest ranked in importance. The mean for the degree of importance compared with the mean for the extent of involvement increased from 2.5 for external constituency perceptions to 3.3 and 3.0 to 3.3 for budget process. Donor analysis changed greatly in importance to administrators

compared with the actual current involvement; donor analysis moved from being 13th in the extent of involvement in analytical reports to 7th in the degree of importance (Table 4.8).

In forecast reports research, administrators reported their view of the importance compared with the extent of involvement. While they retained institutional goals and priorities as the highest ranked item, they replaced physical plant planning proposals from its 2nd rank in involvement with long range planning. Also enrollment planning and funding planning were given a place of higher importance than they were given in the involvement data reported in Table 4.10.

Another way of determining the importance of institutional research is to discuss the findings reported in Tables 4.15 to 4.19. These tables reported responses of administrators of Canadian Bible colleges to questions relating to advantages and disadvantages of internally and externally conducted research as well as an open-ended question where a variety of respondents indicated their perception of the importance of institutional research in their colleges.

Advantages listed most frequently were "decisions more likely based on evidence than fiction" and "research process generates greater ownership of resulting decisions." These rather powerful advantages were given in support of conducting institutional research, since administrators would like to make defensible decisions and receive organizational support for implementation. The importance of institutional research was further supported with responses such as, "provides awareness in institutional 'blind spots', "aids in prioritizing areas of need" and "excellent source of feedback in non-threatening way." Other topics mentioned were costs of wrong decisions, assessment of new programs, improved ability to manage the enterprise and pointing out weaknesses in operations.

Disadvantages of internally conducted institutional research cited revolved around resource allocation to conduct institutional research, subjectivism, poor record of implementation, complicating the decision-making process and lack of expertise to conduct valid research. When comparing disadvantages with advantages it was clear that administrators saw many more advantages than disadvantages. The disadvantages were basically personnel and resource concerns that presumably could be overcome with the determination that internally conducted institutional research would be beneficial to the institution.

Canadian Bible college administrators were asked to suggest advantages and disadvantages of using institutional research findings of other institutions in their own college. Eighty percent of the responses citing advantages included resource conservation, objectivity, exposure to new research questions and broad base of understanding. These items of advantage seemed to overcome many of the disadvantages offered for internally conducted research, implying that college administrators could obtain the informational help required for better decision-making. Disadvantages of using research conducted by another institution included lack of specificity, significant institutional differences, costs and lack of ownership. Bible college administrators provided insightful responses which closely paralleled the literature reviewed on institutional research in small colleges. In particular, Canadian Bible college administrators confirmed the views of Keen and Wagner (1979) and Alter (1980) who stated that institutional research serves as an executive mind-support system which makes usable information available to the administrator in order that decisions made will be more effective.

It is one thing, however, to utilize institutional research for administrative decision-making, and quite another to provide acceptable

evidence in support of the decision to the constituency to which the enterprise is accountable. Tables 4.25 and 4.26 recorded the responses of Canadian Bible college administrators to questions related to decision-making accountability. The findings indicated that Canadian Bible college administrators most often offered their constituencies decision-support evidence such as internal institutional agreement, some issue-specific response or a pragmatic response. These same administrators indicated in Table 4.26 that their institutions' constituencies wanted to see action consistent with other similar enterprises, literature searched, status quo maintained, evidence that it corresponded with what others in the constituency want, needs assessment, consistent with God's will and good student outcomes. Evidence regarding these items cannot be provided to the constituencies without research by some institutional researcher. There was apparent need for more institutional research data so that institutional administrators of Canadian Bible colleges could adequately respond to their support base.

Institutional research findings were disseminated by Canadian Bible colleges in a variety of ways. Because of the apparent interest expressed by supportive constituencies, perceived by college administrators, it would seem important to review the ways in which such data were published. Eighty percent of the responses included publication by some regular means such as college publications, annual meetings, regional constituency meetings and denominational publications. These formal means as well as less formal methods cited could provide the constituencies with at least regular if not adequate reports of college operations.

Canadian Bible college administrators were asked to suggest ways in which institutional research could be strengthened in their institutions. Over 80 percent of the responses suggested that better equipment including

hardware and software, personnel skilled in institutional research methodology and attitude improvement toward institutional evaluation could strengthen institutional research activities.

From the open-ended responses, Tables 4.12 to 4.19 inclusive, one perceives that administrators of Canadian Bible colleges viewed themselves as primary factors in improving or increasing institutional research activities in those institutions. West (1983:13) stated that no aspect of a small college was more vital to its health than the president who prioritized college concerns correctly. Responses by Bible college presidents such as, "assign knowledgable and skilled researchers to do institutional research," "initiate and implement the findings in decisions," and "staff and constituency opposition to institutional research is major barrier" implied that they also acknowledged their role in overcoming some of the difficulties encountered in conducting more institutional research. Clearly, the importance of institutional research was strongly affirmed by Bible college administrators in their responses to survey and interview questions.

Personnel Involved with Institutional Research Activities

Generally, institutional research in smaller colleges as described by Grose (1979) requires a less formal structure because of the collegiality among college personnel. Canadian Bible colleges, as smaller postsecondary institutions, not only operated in a collegial atmosphere, but their institutional research activities were often pursued by senior administrators. Administrators were accountable to governing boards and external constituencies for decisions made in all college matters.

In Table 4.19, 40 percent of the responses to the open-ended question suggested that skilled researchers should do the research and that research

findings should be implemented in decisions. This advice seemed appropriate for providing credible research and for developing confidence to do more decision-support research in subsequent situations. One response suggested that administrators should not underestimate the importance of common sense, a questioning mind and observation. This response lead naturally to the findings in Table 4.23 which reported administrators' perceptions of the extent of informal institutional research conducted in Canadian Bible colleges. Fifty percent of the responses involved longevity and experience of the decision-maker who most often initiated and conducted institutional research in Canadian Bible colleges. In fact, half of the respondents suggested that from 50 to 80 percent of the decisions were made following informal research presumably after observation, questioning and applying common sense developed through experience. Some practical reasons for using informal research were offered such as consensus, limited to soft issues, non-policy issues, no available data, conducted in committee and administrator longevity as mentioned above.

Senior administrators initiated more institutional research in Canadian Bible colleges than other personnel. They were influenced more by perceived seriousness of an issue or uncertainty of the significance of a matter than by depending on a person who routinely monitors institutional data looking for problem areas such as an institutional research professional. Other administrators involved in institutional research included the academic dean, business manager, registrar and student dean. Doi (1979:40) stated that the implementation of institutional research happened without farsighted planning but rather with good people responding to needs for data or decision-support. Zemaitis (1982) discovered that persons conducting institutional research in colleges were chosen on pragmatic grounds rather than on particular training

criteria. Canadian Bible college administrators tended to engage in institutional research on pragmatic grounds, according to their responses. Limited resources and the need for trust in achieving common goals were common factors in their involvement. The literature suggested that non-professional researchers could be effective when they are familiar with the operation and philosophy of the particular college. Certainly some knowledge of electronic data processing would be of value to anyone conducting institutional research. Canadian Bible college administrators seemed to possess these qualifications.

Organizational Arrangements for Institutional Research Activities

Presidents and other administrators involved with decision-making require institutional research data. Offices of institutional research were placed in different configurations within institutions. Depending on the type of institutional research which the office was expected to conduct most of the time, it was often placed into the domain of the responsible administrator. When offices of institutional research are given wide-ranging freedom to gather data, the organizational placement becomes much more important since the quality of data is crucial for use in decision-making. According to Barnes (1975:49) and Zemaitis (1982:60), 61 percent of the institutional research offices reported directly to the chief administrator with only a small percentage being responsible to a variety of other administrators. In a study of smaller two-year colleges, Broderick (1973) found that persons conducting institutional research most often reported to the president.

The organizational arrangements for conducting institutional research in Canadian Bible colleges may provide some insights into the relative importance of institutional research within these colleges. None of the Bible

colleges studied, had established offices of institutional research, making it somewhat difficult to determine the obvious importance of research in these institutions. Factors such as organizational visibility, funding level and personnel responsible for institutional research could aid in strengthening the importance of institutional research. Organizationally, however, institutionally powerful persons within Canadian Bible colleges initiated and conducted the institutional research providing the high profile during particular times when such research was required by decision-makers.

In Canadian Bible colleges institutional research was initiated and conducted by members of the administration of these colleges. Smaller colleges, including those which were privately funded, seemed unable to provide the necessary finances to establish an office of institutional research. Barnes (1975) found that considerably fewer than half of the colleges he surveyed had an office of institutional research, even though they were publicly funded. Zemaitis (1982) later found that in fact there had been a terrific growth during the intervening years in the number of institutional research offices among the smaller colleges.

The publicly funded Canadian postsecondary milieu reflects great diversity in organizational placement, funding and research conducted according to Hillman (1982) and Shale and Gomes (1990). The current situation among Canadian Bible colleges may change significantly as time passes and resources are designated for institutional research activities. When this happens, organizational arrangements, placement and importance will become evident within the administrative structures of these colleges.

Financial Commitment to Institutional Research Activities

The budget of any organization can be viewed as a policy statement of that organization. The manner in which funds are allocated reflects the priorities of educational institutions. Canadian Bible college administrators were asked to describe the funding practices relating to institutional research activities. The responses presented in Table 4.12 clearly indicated that Canadian Bible colleges rarely designated funds for institutional research. The usual practice was to draw smaller amounts from general funds, utilizing existing staff and departmental budgets for funding institutional research. Considering the diversity of responses, it may be concluded that Bible college administrators affirmed the value of institutional research but did not allocate funds to that activity on a regular basis.

Literature sources indicated that underfunding institutional research activities resulted in limited use of this means of decision-support. Chalker (1980) found that "lack of money, lack of emphasis from administration and lack of full time personnel" contributed to inadequate programs and institutional dissatisfaction. G. Barnes (1975) based on his study, maintained that institutional research should be funded through regular budgeting and, in general, funding should be increased in order to better serve the institutions' decision-makers.

According to responses of administrators reported in Table 4.29, 67 percent believed that the need for more institutional research was crucial and more would be needed in the future. Institutional research conducted across institutions or individual institutional research findings stored in some data bank could save money to particular institutions as reported in the literature. Responses of Bible college administrators to the perceived value of a Canadian Bible college data bank received mixed reaction (Table 4.30). Half of the

respondents perceived great value in a data bank for particular areas such as salary scales, per-student costs and identifying trends, while others were cautious about the value of sharing any specific data. Perhaps issues related to fiscal insecurity resulted in the cautious responses in some areas. In Table 4.31, these same administrators cited enrollment management, budget including fund-raising, new program development and personnel recruitment and development as critical challenges for the next five years. Perhaps an increase in interinstitutional research could aid Bible colleges in more effective planning while also conserving resources in the process.

Operational funds seemed to be released for institutional research during an accreditation process or for some other unusual reason occasioned perhaps by an enrollment decline or economic downturn faced by the institution. The literature would provide a compelling argument for conducting institutional research prior to encountering economic reverses. The view is that regular data collection followed by appropriate analysis could provide decision-makers with the ability to anticipate negative economic conditions and and by forecasting them allow themselves time to plan accordingly.

Effects of Institutional Factors on Status of Institutional Research

Using the profile of these institutions described in chapter 4, the interdenominational, largest, semi-rural and small city colleges used some computer assistance in preserving records. Eighty-three percent of the largest Bible colleges used computer assisted record keeping, and no records were kept manually in the central office. The larger, more complex enterprises would be expected to utilize more mechanical means in organizational operations because of need and superior resources.

Canadian Bible college administrators employed in smaller institutions and in institutions governed by a religious denomination most frequently conducted research in operating reports. Administrators of Bible colleges located in small cities most often conducted analytical report research; while forecast reports were most often conducted by administrators in denominationally governed, smallest and largest colleges. Governance, institutional size and campus location seemed to determine the relative emphasis on types of institutional research conducted by senior administrators of Canadian Bible colleges.

The data further indicated that forecast report research was conducted most often by larger and denominationally governed Bible colleges. These colleges generally have more stable and larger funding structures and this fiscal advantage may allow administrators to engage in a wider range of institutional research activities. With respect to governance, denominational requirements may increase the involvement of Bible colleges in research or data collection for decision-support or for reporting purposes.

SUMMARY

This chapter presented a discussion of the findings related to the extent of involvement in institutional research activities and the importance of these activities in Canadian Bible colleges. Although the use of mechanical means to store records was widely used only in the larger Bible colleges, institutional research was conducted in all categories defined by the conceptual framework in all sizes and types of Canadian Bible colleges.

The perceived importance of conducting institutional research showed that Canadian Bible colleges placed a very high value on the need for

institutional research, particularly in areas such as planning, student services, curriculum and finances. Bible college administrators cited advantages and disadvantages of using different types of institutional research, and they manifested a high level of understanding of the institutional research needs in their institutions. Baldridge and Tierney (1980) viewed smaller colleges positively in terms of implementing innovations because of the "greater sense of shared responsibility among institutional members."

The organizational and financial arrangements for conducting institutional research in Canadian Bible colleges were very limited. While no institutional research professional was employed in these colleges, administrators seemed to adequately address the research needs, especially in the smaller institutions. These findings corresponded with other research done among smaller publicly funded colleges. The unique opportunities and constraints of smaller colleges in developing decision-support data were experienced by Canadian Bible colleges. In spite of financial and personnel constraints, useful data were compiled by college administrators for application in decision-making processes. Senior administrators also suggested a number of future needs and likely applications for institutional research, indicating a longer range view for the acceptance of institutional research in Canadian Bible college operations.

CHAPTER 6

SUMMARY, CONCLUSIONS AND IMPLICATIONS

This final chapter presents a synopsis of the study. Included in this synopsis is a summary of the study, findings, conclusions and implications for Canadian Bible colleges.

SUMMARY OF THE STUDY

Purpose of the Study

The purpose of this study was to determine the status of institutional research in Canadian Bible colleges.

Statement of the Problem

This study was guided by the following sub-problems:

1. Identify the nature and extent of institutional research activities in Canadian Bible colleges.
2. Identify the perceived importance of institutional research activities for college programs by senior administrators of Canadian Bible colleges.
3. Determine the personnel who direct institutional research in Canadian Bible colleges.
4. Determine the organizational arrangements for institutional research in Canadian Bible colleges.

5. Determine the extent of financial commitment to institutional research in Canadian Bible colleges.

6. Examine the effect of institutional age, governance, size and location on perceptions of the status of institutional research in Canadian Bible colleges.

Significance of the Study

The need of improved management in times of constraint has been the subject of numerous publications in the higher education literature. Canadian Bible colleges, as small colleges, may be included in comments of Baldridge and Tierney (1980:581) who indicate that small colleges are similar to larger ones with respect to problems faced and the strategies used to solve these problems. Those aspects of small colleges which make them unique, especially aspects of privately funded colleges, heightened rather than reduced the severity of problems encountered in Baldridge and Tierney's view. Astin and Lee (1972) identified a group of American colleges as "invisible colleges." The "invisible colleges" were generally smaller institutions that enjoyed only regional support. They included rural colleges, black colleges, religious colleges and narrow curriculum or special purpose colleges. Referring specifically to smaller postsecondary institutions, Stickler (1961) stressed the importance of institutional research, explaining that institutional research activities were effective in any size institution.

Astin and Lee (1972:23) stated that the Bible colleges needed help to survive. Eagen (1980) found that the planning practices in accredited American Bible colleges were generally poor and in need of better coordination with administrative decision-making. Bible colleges have not been studied extensively. Recently, several researchers have investigated four

areas of Canadian Bible college operations. By determining the status of institutional research in Canadian Bible colleges, this study added another dimension of understanding the decision-support research conducted for administrative decision-making in these colleges.

This study identified that Canadian Bible colleges participated in institutional research for specific reasons such as accreditation or in emergencies brought about by financial crises. Presidents of these institutions also listed additional instances when institutional research was initiated and subsequently conducted, often by those same people.

Research Design

The research was organized as a field study employing a survey questionnaire and a followup interview in data collection. The study was descriptive rather than evaluative, focussing on data collected from presidents and other senior administrators of Canadian Bible colleges. Findings from the questionnaires were supplemented by data collected through structured interviews conducted with institutional administrators.

The processes involved in carrying out this study constituted the design for the study. Survey questionnaires were distributed and following their return the data were analyzed. Structured interviews were conducted with selected college personnel and those responses were recorded and analyzed. A series of tables and descriptive commentaries were developed to explain the findings related to the status of institutional research and the conceptual framework designed by Sheehan (1972).

Methodology

The questionnaire was selected as the primary technique for gathering data from a large number of colleges geographically dispersed across Canada. This approach allowed the researcher to survey the entire population of member institutions of the Association of Canadian Bible Colleges for the year 1985-86. The tremendous diversity of Canadian Bible colleges could best be studied using the survey questionnaire. Also, other strengths of the questionnaire such as objectivity, convenience, reasonable cost, comprehensiveness, anonymity, uniform responses and ease of tabulation and analysis influenced the researcher to utilize this method of data collection.

The interview guide was designed to aid the researcher in verifying and probing more deeply into the questionnaire data. The semi-structured interview instrument was organized so that the respondent could clarify for the researcher whether certain factors that could not readily be identified by the questionnaire instrument affected the practice of institutional research in Canadian Bible colleges. The focussed interview was very helpful for exploring issues in depth. In particular, Gazard (1980:113) cited fear of unknown researcher, extreme diversity of responses implying unique institutional factors, and relative ambiguity of the topic as reasons to conduct the followup interview. Isaac and Michael (1971) suggested that the researcher may branch off from structured core questions to explore a topic in more depth. Accurate information can be gathered with the additional advantage that the interviewer has the opportunity to probe for underlying factors or relationships too complex or elusive to discover in more straightforward questions.

The questions in the guide were organized around the five sections of the questionnaire instrument. The respondents were either presidents or other

senior administrators who were intimately involved with institutional practices. All but one of the administrators interviewed had been involved in the completion of the questionnaire on behalf of their institution; this process substantiated the benefits of this type of data collection and proved to be helpful to the researcher in the data analysis.

Data Collection

Data were collected on the status of institutional research activities in Canadian Bible colleges from presidents and other senior administrators of those institutions by means of a survey questionnaire. Questionnaires were returned prior to, during and immediately following the annual meetings of the Association of Canadian Bible Colleges held in Peterborough, Ontario in late May, 1986. The semi-structured interviews were conducted during and immediately following this conference.

The administrators provided detailed information in the form of questionnaire data and rather lucid responses to interview questions. The willingness of Bible college leaders to respond provided an excellent data base for analysis in determining the status of institutional research in Canadian Bible colleges.

Data Analysis

Data indicating the extent of institutional involvement and perceived importance of such activity were analyzed by means of tables and other descriptive portrayal. The statistical measures relied heavily on means and percentages from which the descriptions were developed. The effects of institutional age, governance, size, and location were examined by the use of t tests and F tests. Interview data were analyzed through careful content

analysis, sorting and combining in terms of the research questions and for the purpose of appropriate summarization. Presentation of these data in table format seemed to represent data most clearly.

FINDINGS

To address the question, "What is the status of institutional research in Canadian Bible colleges?" six sub-problems were developed.

1. Identify the nature and extent of institutional research activities in Canadian Bible colleges.

Canadian Bible colleges recorded institutional data manually and with some computer assistance. Sixty-five percent of the colleges used no computer assistance at all with files kept manually in either the central office or in separate offices. Thirty-five percent of the Bible colleges used a combination of manual and computer assistance in handling institutional records. No colleges utilized computers exclusively either in the central office or in separate offices.

Considering the categories defined in the conceptualization of Sheehan (1972), Canadian Bible colleges recorded data across all types of institutional record keeping. The extent of institutional research conducted in those categories varied with situational urgency and the larger issues which confront higher education institutions generally such as curriculum development, student issues, self-study and long range planning

The use of institutional research conducted in other similar institutions was limited and there was mixed reaction as to the value of conducting more of this type of research across institutions. Some college administrators saw

great value coming from institutional research conducted across similar institutions on particular subjects.

2. Identify the perceived importance of institutional research activities for college programs by senior administrators of Canadian Bible colleges.

The responses of college administrators indicate that they perceived greater importance in conducting institutional research than was currently practiced. The costs in time, money and expertise prevented the institutions from engaging in more institutional research and was viewed as a handicap to improving decision-making and routine operations. Senior administrators of Canadian Bible colleges identified many more advantages than disadvantages to conducting and using institutional research findings in college operations. Their responses closely approximated the views of Keen and Wagner (1979) and Alter (1980) who stated that institutional research serves as an executive mind-support system which makes usable information available to the administrator in order that decisions made will be more effective.

3. Determine the personnel who direct institutional research in Canadian Bible colleges.

Institutionally powerful persons, including presidents, academic deans and business administrators within Canadian Bible colleges devoted time to initiating and conducting the necessary institutional research. These persons faced with decision challenges were required to not only initiate the necessary institutional research but in many circumstances to conduct the research as well.

Smaller colleges including those which are privately funded currently seem unable to provide the necessary finances to establish offices of institutional research though they engage in institutional research activities. In

the meantime, senior administrators and qualified professors will be required to conduct the institutional research necessary for improved decision-making.

4. Determine the organizational arrangements for institutional research in Canadian Bible colleges.

It was difficult to determine the importance of institutional research by observing the organizational arrangements for conducting institutional research. No Canadian Bible colleges had established offices of institutional research, yet institutional research was conducted by these institutions. In spite of the lack of separate offices of institutional research, Canadian Bible colleges placed a high priority on initiating and conducting institutional research as evidenced by the administrative officials who were involved. Time and financial resources are needed to bring Bible college administrators to the place where the establishment of institutional research offices is realized.

5. Determine the extent of financial commitment to institutional research in Canadian Bible colleges.

The budget of any organization may be viewed as a policy statement of that organization. The manner in which funds are allocated reflects the priorities of educational institutions. The funding practices of Canadian Bible colleges for institutional research purposes would suggest that only on particular occasions, such as during a self-study required by an accreditation process or when declines in enrollment or funding levels occur, do they designate funds for conducting institutional research. Administrators of these colleges admitted that much more institutional research would be needed to confidently face major issues in the future. They cited issues such as enrollment management, budget and fundraising, new program development

and personnel recruitment and development as critical decision-making areas for the immediate future.

6. Examine the effect of institutional age, governance, size and location on perceptions of the status of institutional research in Canadian Bible colleges.

Institutional factors of age, govenance, size and location influenced administrators' perceptions of the practice of institutional research in their institutions. An institution's age affected certain practices in the three categories of institutional research activities outlined by the conceptual framework. Governance of Canadian Bible colleges most influenced institutional research conducted in operating reports. Interdenominational Bible college administrators perceived a greater need for accountability in particular operational matters.

Larger Canadian Bible colleges were more concerned than their smaller counterparts about operational aspects such as inventory control, donor analyses, marketing strategies including enrollment prediction. Smaller institutions emphasized student outcomes and communication procedures more than the larger institutions. The location of Canadian Bible colleges influenced the practice of institutional research in all types of reports. Institutions located in cities and towns were much more likely to value a wide range of institutional research practices than colleges in rural and semi-rural environments.

CONCLUSIONS

This study collected data from the population of Canadian Bible colleges of the Association of Canadian Bible Colleges. The data collected were

expected to provide insight into the status of institutional research in these colleges. The following conclusions have been derived from the literature, questionnaires and interviews.

Conclusion 1

Canadian Bible colleges conducted a wide array of institutional research which was used for ongoing institutional operation and for administrative decision-making. These institutions were involved in all categories of institutional research as defined by Sheehan's (1972) conceptualization.

Conclusion 2

Canadian Bible college administrators placed great importance on the value of institutional research conducted for their institutions. The perceived importance of institutional research activities far exceeded the actual extent of current practice.

Conclusion 3

The persons who initiated and conducted institutional research in Canadian Bible colleges were senior administrators with influence to apply findings of institutional research in decision-making processes.

Conclusion 4

The financial commitment of Canadian Bible colleges to institutional research was limited and evident only in times of institutional distress or externally required self-study.

Conclusion 5

Canadian Bible colleges were attempting to function in the mainstream of Canada's higher education system by recognizing the impact of environmental factors and the need of open and rational decision-making in college operations.

Conclusion 6

Senior administrators of Canadian Bible colleges were well educated visionaries who saw great potential for continuing the contributions which their institutions were making in Canada's higher education system and in Canadian society generally.

Conclusion 7

Canadian Bible college administrators engaged in a great deal of informal institutional research because the institutions were small, operating on a collegial basis, and many senior administrators had served their institutions for extended periods of time.

Conclusion 8

Constituencies of Canadian Bible colleges expected regular and appropriate evidence of research for decision-support to be made known to them by college administrators.

Conclusion 9

Bible college administrators were cautious about inter-institutional studies which might endanger their traditional pools of support.

IMPLICATIONS

The summary, findings and conclusions have a number of implications for the administration of Canadian Bible colleges. They also indicate a need for further research.

Implications for the Administration of Canadian Bible Colleges

The nature of this study along with the wide diversity of Canadian Bible colleges studied provided the researcher with a basis for developing implications for the administration of these colleges.

One implication is for Bible college presidents. Presidents are expected to represent their institutions in numerous ways as well as to lead the college in overall development. To expect these already busy and politically sensitive individuals to conduct their own decision-support research may be placing their institutions at risk in terms of the need for unbiased, carefully collected data required in effective decision-making. It may be helpful for Bible college executives to consider the areas where they have not only initiated but also conducted institutional research and to evaluate the quality of the decision-support material. Participation in inter-institutional studies and engaging external consultants with sensitivity to the unique problems of Canadian Bible colleges would be additional ways of eliminating bias of the decision-maker who must also be the researcher.

The results of this study should be helpful to Bible college boards who request evidence of research as foundational to proposed initiatives by college administrations. These men and women may need to consider the budgetary implications of obtaining appropriate comparative and locally gathered institutional research. Board members may want to assess their expectations

for the president and develop a realistic job description against which they can evaluate his or her work.

Presidential search committees of Canadian Bible colleges should be interested in these findings since they interview candidates who will conduct institutional research. The findings provide insight into the institutional research skills needed by presidents of Bible colleges, particularly smaller ones which make up the majority of these institutions. Since denominationally supported Bible colleges were expected to provide more and regular data to denominational leadership and to their general constituencies than unaffiliated institutions, particular attention should be paid to engaging suitable administrators with research and communication skills.

The dominant view in the literature was to simply assume the need of institutional research and therefore institutional researchers. The somewhat hidden nature of decision-support and consequently the hidden costs which must be borne are real problems for the smaller postsecondary institution which is funded by tuition and fees as well as privately generated gifts. Decision-support, though clearly seen as valuable by Canadian Bible college administrators, nevertheless presented them with the challenge of funding such research.

Persons contemplating a career in Canadian Bible college administration should find the results of this study useful. Competence in data collection and communication of decision-support factors would be very valuable skills to acquire as demands for involvement by constituencies in college operations continue to be evident. Excellent human relations skills and the ability to communicate complex issues simply and clearly would be necessary qualities for Bible college administrators.

Administration and college board personnel who make decisions regarding computer assistance should review the areas where data are collected and where decision-support is necessary. There would be value in reviewing the areas where presidents have expressed their concerns, indicated the factors which tend to increase institutional research activity and where they believeed that future challenges will emerge for Canadian Bible colleges. Presidents were concerned about demographic shifts and their implications for long range planning. Factors which increased the need of institutional research activity included presidential change and institutional self-study. Future challenges were expected in fundraising areas and curriculum renewal. The choice of equipment must also be suitable for current and future operational requirements.

The conceptual framework was suitable for providing structure to the questionnaire but more importantly the senior administrators were able to respond from their routine operations to all three levels of institutional research described by the model. No doubt some of the terms might have been expressed differently but the categories seemed to be sufficiently comprehensive in the view of Bible college leaders. In fact, there may have been more categories than necessary for the smaller institutions but by viewing the model they became aware of ways to improve their institutional research activities.

The conceptual framework used for this study could also be modified structurally to better suit the unique nature of Canadian Bible colleges. Greater emphasis could be given to recruitment strategies based on the experiences of previous students. More definition could be devised for faculty management in light of the particular needs of smaller privately funded institutions.

Graduate school programs designed to prepare higher education administrators must consider the obvious needs of computer literacy in the management of higher education institutions. Graduates should be required to know how to utilize information produced by management information systems and also to sufficiently understand how such data were generated. This would be particularly helpful if they might be employed in a smaller institution where they may be called upon to conduct institutional research. Graduate programs in administration must also include theory and practice in written and oral communication with institutional personnel and various interested publics.

Canadian Bible college administrators would benefit from the availability of an institutional research methods handbook. A simply written handbook would provide quick orientation for administrators and be even more useful if appropriate software, inexpensively priced, could accompany it. A list of consultants, knowledgable in institutional research and in the special needs of smaller postsecondary institutions, would be helpful to decision-makers within Canadian Bible colleges.

Canadian Bible colleges would benefit from inter-institutional studies conducted among public institutions and in similar smaller institutions of higher education. The studies would be most helpful when conducted in areas of institutional operation such as student market, faculty matters, learning resources, funding sources and strategies, curriculum and facility development.

Canadian Bible colleges would benefit from substantial external funding in order to begin a more extensive program of institutional research. These funds could be valuable in assuring the vitality of Canadian Bible colleges by

providing the means to more adequately generate necessary data for critical self-evaluation.

Funding sources must be found for supporting Canadian Bible colleges with large sums of money over a period of years similar to funds recently designated to assist smaller postsecondary institutions in the United States. These would be granted on the basis of demonstrated severity of particular administrative or operational problems faced by each institution. For this to happen, corporations, foundations and government must see value in a postsecondary education obtained in smaller institutions that are often located in smaller communities, recognizing their special needs for external funding.

Theoretical models must constantly be reviewed as rapid technological and environmental changes take place in the higher education milieu. Models must provide possible escape routes from difficult administrative challenges and are needed when paradigm shifts are identified. Canadian Bible colleges are seeing things differently than they did during the last several decades. They are in need of reasonable advice from clear-thinking, technologically knowledgable persons.

This study has identified the need of Canadian Bible colleges to engage in cost-efficient institutional research in order to provide required decision-support for decisions facing administrators in the future. These colleges have survived numerous hardships in the past. The survival instincts present among their constituents will likely result in institutional adaptation to changing needs if comments of their senior administrators are any indication.

Implications for Further Research

Use of the survey questionnaire, though advantageous for many reasons, cannot improve upon personal contact with institutional administrators where

the college is located. The additional use of structured interviews with some executives of Canadian Bible colleges was helpful and provided better understanding than could have been obtained with questionnaire data only.

Many Bible college presidents were well educated in fields other than higher education administration and so found the routines of institutional research to be a chore. They clearly valued the results of such research as was evident from their responses but they were often unskilled to do such research or could not find the time to engage in appropriate institutional research. The consistent recording of data outlined by the conceptual framework would certainly contribute to the ease of conducting routine as well as analytical or forecast oriented institutional research.

Terminology used in the questionnaire was unknown to the majority of the respondents so they found the glossary of terms included with the questionnaire to be very helpful and consequently were able to provide informed responses. The questionnaire instrument itself presented no difficulties of clarity or understanding regarding its purposes. Its brevity and simplicity of indicating response seemed appropriate in the view of the respondents.

Difficulties with data collection were encountered because of the time when questionnaires were distributed. Perhaps there can be no good time for a Bible college executive to respond to a survey questionnaire on a topic which may be perceived as less important than immediate challenges of daily operation. In the future, completing such research in the fall term or early in the winter term could possibly be better timing for institutional administrators.

Some specific additional areas for further research include:

1. Investigate changes in institutional research activities compared to changes experienced by other types of postsecondary institutions. Have any efforts been successful in developing a Canadian Bible college data base for comparative study? The findings from such research would assist Bible college administrators in assessing their progress in developing institutional research for decision-support.

2. How have the changing demands of institutional constituencies affected the need for institutional research and where have the greatest challenges in administration emerged? The results of this inquiry could assist administrators in refining their institutional research structures for data collection in areas of current need in a rapidly changing environment.

3. Has the increased use of computer-assisted institutional research affected administrative decision-making within these colleges? To what extent have offices of institutional research been established in Canadian Bible colleges?

4. What methodologies for conducting institutional research have been most useful for application to decision-making? With respect to skills necessary for institutional researchers, which combinations are most effective in Canadian Bible colleges?

5. Investigate the extent of implementation of institutional research recommendations based on findings.

6. Compare the needs for institutional research in publicly funded educational institutions with privately funded ones such as Bible colleges. It may be that differences in accountability related to governance and financial support require different types of institutional research.

7. Study the effectiveness of Bible college administrators by determining the clarity of vision which they have of the institution's priorities and their ability to balance the demands of internal and external publics. Have their planning practices become more comprehensive, systematic, public (open), regular and expansive in responding to an environment which demands greater accountability?

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APPENDIX A

SURVEY QUESTIONNAIRE

CANADIAN BIBLE COLLEGES

THE STATUS OF INSTITUTIONAL RESEARCH

IN CANADIAN BIBLE COLLEGES

QUESTIONNAIRE

DO NOT WRITE IN THIS SPACE

1 2 3

I. INSTITUTIONAL PROFILE

A. Name of Institution: _____ 4

B. Address of Institution: _____

Community _____ Prov. _____ Postal Code _____

Telephone ( ) ___-_____

C. Name of Respondent(s): _____

D. Title of Respondent(s): _____

E. Date Institution was Established: _____ 5

F. Type of Institution:

1. Denominational ( ) 6
2. Interdenominational ( )
3. Other _____ ( )

G. Size of Institution: (Total student count)

1. 100 or fewer ( ) 7
2. 101 - 200 ( )
3. 201 - 300 ( )
4. 301 - 500 ( )
5. 501 - 1000 ( )
6. over 1000 ( )

H. How are Institutional Records Kept:

1. Filed manually in central office ( ) 8
2. Filed manually in separate offices ( )
3. In central computer data base ( )
4. In separate offices, computerized file ( )
5. Manually and computer-assisted centrally ( )
6. Manually and computer-assisted in separate offices ( )
7. Other _____ ( )

II. OPERATING REPORTS

A. Areas of Institutional Research Activity:

For the following items please indicate the extent of INVOLVEMENT of your institution in each activity and your perception of the IMPORTANCE of each activity for your institution.

	EXTENT OF INVOLVEMENT					DEGREE OF IMPORTANCE				DO NOT WRITE IN THIS SPACE
	None	Very Low	Low	High	Very High	Very Low	Low	High	Very High	
1. Reports on grades/performance	0	1	2	3	4	1	2	3	4	9,10
2. Full-time/part-time analyses	0	1	2	3	4	1	2	3	4	11,12
3. Class lists	0	1	2	3	4	1	2	3	4	13,14
4. Records of practical field work	0	1	2	3	4	1	2	3	4	15,16
5. Academic calendar	0	1	2	3	4	1	2	3	4	17,18
6. Timetable	0	1	2	3	4	1	2	3	4	19,20
7. Preparation of procedures manuals	0	1	2	3	4	1	2	3	4	21,22
8. Maintain space inventory on campus	0	1	2	3	4	1	2	3	4	23,24
9. Departmental expenditures accounting	0	1	2	3	4	1	2	3	4	25,26
10. Job classifications for staff	0	1	2	3	4	1	2	3	4	27,28
11. Reports of vacancy/turnover	0	1	2	3	4	1	2	3	4	29,30
12. Payroll records	0	1	2	3	4	1	2	3	4	31,32
13. Comparative studies of other institutions	0	1	2	3	4	1	2	3	4	33,34
14. Maintain equipment inventory	0	1	2	3	4	1	2	3	4	35,36
15. Compile statistics on institutional programs, resources, enrollments, etc., in a data book	0	1	2	3	4	1	2	3	4	37,38
16. Required external reports	0	1	2	3	4	1	2	3	4	39,40
17. Monitor implementation of various plans	0	1	2	3	4	1	2	3	4	41,42

II. OPERATING REPORTS

B. Personnel Involvement in Institutional Research Activities:

Identify the person(s)/department(s) that would most often INITIATE inquiry in the areas of research activity and the person(s)/department(s) that would most often actually CONDUCT the research. (Please check no more than three (3) in each column.)

	INITIATE	CONDUCT	DO NOT WRITE IN THIS SPACE
1. President	( )	( )	43,44,45
2. Academic Dean	( )	( )	
3. Business Administrator	( )	( )	
4. Student Dean	( )	( )	46,47,48
5. Registrar	( )	( )	
6. Public Relations Office	( )	( )	
7. Governing Board	( )	( )	
8. Government, Accrediting Agency	( )	( )	
9. Other _____	( )	( )	

Comment: _____

_____

_____

_____

III. ANALYTICAL REPORTS

A. Areas of Institutional Research Activity:

For the following items please indicate the extent of INVOLVEMENT of your institution in each activity and your perception of the IMPORTANCE of each activity for your institution.

	EXTENT OF INVOLVEMENT					DEGREE OF IMPORTANCE				DO NOT WRITE IN THIS SPACE
	None	Very Low	Low	High	Very High	Very Low	Low	High	Very High	
1. Program cost analyses	0	1	2	3	4	1	2	3	4	49,50
2. Budget process	0	1	2	3	4	1	2	3	4	51,52
3. Analyses of donors	0	1	2	3	4	1	2	3	4	53,54
4. Student finance studies	0	1	2	3	4	1	2	3	4	55,56
5. Attitude/opinion surveys	0	1	2	3	4	1	2	3	4	57,58
6. Overall teaching effectiveness/methodology	0	1	2	3	4	1	2	3	4	59,60
7. Space utilization	0	1	2	3	4	1	2	3	4	61,62
8. Marketing strategies	0	1	2	3	4	1	2	3	4	63,64
9. Perceptions of external constituency	0	1	2	3	4	1	2	3	4	65,66
10. Organizational structure	0	1	2	3	4	1	2	3	4	67,68
11. Communication/procedures/forms	0	1	2	3	4	1	2	3	4	69,70
12. Decision-making processes	0	1	2	3	4	1	2	3	4	71,72
13. Analyses of student characteristics	0	1	2	3	4	1	2	3	4	73,74
14. Student services eg. counselling	0	1	2	3	4	1	2	3	4	75,76
15. Followup studies of graduates	0	1	2	3	4	1	2	3	4	77,78
16. Attrition or dropout studies	0	1	2	3	4	1	2	3	4	79,80

5

A. Areas of Institutional Research Activity:

	EXTENT OF INVOLVEMENT					DEGREE OF IMPORTANCE				DO NOT WRITE IN THIS SPACE
	None	Very Low	Low	High	Very High	Very Low	Low	High	Very High	1 2 2/3
17. Publication productivity of faculty	0	1	2	3	4	1	2	3	4	4,5
18. Community service activities of faculty	0	1	2	3	4	1	2	3	4	6,7
19. Individual teaching performance evaluation	0	1	2	3	4	1	2	3	4	8,9
20. Instructional activity/load of faculty	0	1	2	3	4	1	2	3	4	10,11
21. Preparation for accreditation	0	1	2	3	4	1	2	3	4	12,13

B. Personnel Involvement in Institutional Research Activities:

Identify the person(s)/department(s) that would most often INITIATE inquiry in the areas of research activity and the person(s)/department(s) that would most often actually CONDUCT the research. (Please check no more than three (3) in each column.)

	INITIATE	CONDUCT	
1. President	( )	( )	14,15,16
2. Academic Dean	( )	( )	
3. Business Administrator	( )	( )	
4. Student Dean	( )	( )	17,18,19
5. Registrar	( )	( )	
6. Public Relations Office	( )	( )	
7. Governing Board	( )	( )	
8. Government, Accrediting Agency	( )	( )	
9. Other _____	( )	( )	

Comment: _____

_____

_____

IV. FORECAST REPORTS

A. Areas of Institutional Research Activity:

For the following items please indicate the extent of INVOLVEMENT of your institution in each activity and your perception of the IMPORTANCE of each activity for your institution.

	EXTENT OF INVOLVEMENT					DEGREE OF IMPORTANCE				DO NOT WRITE IN THIS SPACE
	None	Very Low	Low	High	Very High	Very Low	Low	High	Very High	
1. Institutional goals and priorities	0	1	2	3	4	1	2	3	4	20,21
2. Faculty flow eg. age, tenure, etc.	0	1	2	3	4	1	2	3	4	22,23
3. Faculty mobility	0	1	2	3	4	1	2	3	4	24,25
4. Development of budget allocation formulas	0	1	2	3	4	1	2	3	4	26,27
5. Funding planning	0	1	2	3	4	1	2	3	4	28,29
6. Program enrollment prediction	0	1	2	3	4	1	2	3	4	30,31
7. Enrollment planning	0	1	2	3	4	1	2	3	4	32,33
8. Long-range planning	0	1	2	3	4	1	2	3	4	34,35
9. Physical planning proposals/ capital projects	0	1	2	3	4	1	2	3	4	36,37
10. Course demand forecast	0	1	2	3	4	1	2	3	4	38,39

IV. FORECAST REPORTS

B. Personnel Involvement in Institutional Research Activities:

Identify the person(s)/department(s) that would most often INITIATE inquiry in the areas of research activity and the person(s)/department(s) that would most often actually CONDUCT the research. (Please check no more than three (3) in each column.)

	INITIATE	CONDUCT	DO NOT WRITE IN THIS SPACE
1. President	( )	( )	40,41,42
2. Academic Dean	( )	( )	
3. Business Administrator	( )	( )	
4. Student Dean	( )	( )	43,44,45
5. Registrar	( )	( )	
6. Public Relations Office	( )	( )	
7. Governing Board	( )	( )	
8. Government, Accrediting Agency	( )	( )	
9. Other _____	( )	( )	

Comment: _____

_____

_____

V. ORGANIZATION, FUNDING, DECISION IMPACT AND FINAL COMMENTS

A. Please attach or sketch below an organization chart which indicates reporting lines including any/all persons involved in institutional research.

B. Explain briefly how institutional research activities are funded. If your institution does not budget for institutional research activities as a separate line item, from where are funds likely to be drawn? What amount would your institution expend on institutional research annually? What is your total operating budget? 46 47

C. Identify instances during the last 5 years when results of institutional research had an obvious influence upon administrative decisions in your institution. Please distinguish between findings of internally conducted research and externally acquired research data that influenced decision-making.

D. 1. What are some advantages of conducting internal institutional research in relevant areas prior to institutional decision-making?

2. Are there disadvantages of this?

E. 1. What are some advantages of seriously considering institutional research conducted by other institutions for application to yours?

2. Are there disadvantages to this?

F. Please comment on additional aspects of institutional research which seem important to you or your institution that have not been addressed by this survey?

G. If you wish to receive a summary of the research when available, please sign below.

Signature _____

Thank you for your participation in this survey. Please return the questionnaire in the enclosed, stamped envelope provided to:

L.P. Sawchenko
Dept. of Educational Administration
7-104 Education North
The University of Alberta
Edmonton, Alberta Canada
T6G 2G5

DEFINITIONS

Data - codes and quantities resulting from measurement or observation. A set of characters, words or signals to which a significance can be assigned.

Data base - a collection of data organized to facilitate maintenance, query and reporting.

Institutional research (IR) - the activity of data collection for the purpose of problem-solving and decision-making.

Involvement - relates to time, energy and expense in conducting institutional research.

Management information system (MIS) - an information system, manual or mechanical which provides the administrator/manager with the information needed to make decisions.

Operating Reports - are reports or summaries of collected data associated with student admissions; course registrations and grades; daily transactions in the business office; various student affairs departments; institutional administration; physical plant and maintenance; and all personnel matters.

Analytical Reports - consist of information resulting from data collected as operating reports and integrated with appropriate other information resulting in historical studies of resource use, activity costs, changing student and course enrollment patterns that provide decision-makers with an improved understanding not readily deduced from basic statistics of institutional transactions.

Forecast Reports - result from the integration of internally collected data with external information that assists administrators in management decisions requiring reliable predictions of future environmental conditions.

APPENDIX B

CANADIAN BIBLE COLLEGES PARTICIPATING IN THIS STUDY

Canadian Bible Colleges Participating in this Study

Name of College	Province
Alberta Bible College	Alberta
Aldersgate College	Saskatchewan
Atlantic Baptist College	New Brunswick
Baptist Leadership Training School	Alberta
Bethany Bible College	New Brunswick
Bethany Bible Institute	Saskatchewan
Briercrest Bible College	Saskatchewan
Canadian Bible College	Saskatchewan
Canadian Mennonite Bible College	Manitoba
Canadian Nazarene College	Manitoba
Catherine Booth Bible College	Manitoba
Central Pentecostal College	Saskatchewan
Christianview Bible College	Ontario
Columbia Bible College	British Columbia
Eastern Pentecostal Bible College	Ontario
Emmanuel Bible College	Ontario
Foothills Christian College	Alberta
Formation Timothee	Quebec
Full Gospel Bible Institute	Saskatchewan
Gardner Bible College	Alberta
Hillcrest Christian College	Alberta
Institut Biblique Beree	Quebec
Institut Biblique Bethel	Quebec
International Bible College	Saskatchewan

Canadian Bible Colleges Participating in this Study (continued)

Name of College	Province
Key-Way-Tin Bible Institute	Alberta
London Baptist Bible College	Ontario
Maritime Christian College	Prince Edward Island
Mennonite Brethren Bible College	Manitoba
Millar Memorial Bible Institute	Saskatchewan
Mountain View Bible College	Alberta
New Brunswick Bible Institute	New Brunswick
Nipawin Bible Institute	Saskatchewan
North American Baptist College	Alberta
Northwest Baptist Theological College	British Columbia
Northwest Bible College	Alberta
Ontario Bible College	Ontario
Ontario Christian Seminary	Ontario
Peace River Bible Institute	Alberta
Prairie Bible College	Alberta
Steinbach Bible College	Manitoba
Swift Current Bible Institute	Saskatchewan
Temple Bible College	Alberta
Western Pentecostal Bible College	British Columbia
Winkler Bible Institute	Manitoba
Winnipeg Bible College	Manitoba

APPENDIX C

INTERVIEW GUIDE

CANADIAN BIBLE COLLEGES

THE STATUS OF INSTITUTIONAL RESEARCH

IN CANADIAN BIBLE COLLEGES

INTERVIEW GUIDE

1. Name of Institution: _____.

2. Name of Respondent: _____.

3. Title of Respondent: _____.

4. What has been your involvement in higher education administration?

5. In which area of college operations is IR most useful to your institution?

6. What internal factors tend to increase IR activity at your college?

7. What external factors have increased (or will increase) IR activity at your college? (ie. public funding, denominational affiliation, university or other institutional affiliation, denominational board governance versus independent board governance, etc..)

8. To what extent would you characterize decision-making at your college as proactive? (do you look for weaknesses in operations?)

9. Please describe a typical scenario of facing/anticipating a problem (including all intervening action taken), until a decision is made and implementation begun.

10. How much informal (within a person's head, having a sense of things) IR is done as you administer your college operations? On what issues is informal response most likely to be given?

11. In trying to determine whether IR should be conducted in relation to an issue or problem, what usually determines the decision to proceed or to use available common knowledge and consensus?

12. What kind of defense is often given for prior decisions or for pending decisions to interested parties? (ie. experience, God's leading, certain advice, comparative research, IR, etc..)

    a. What is the expectation of the supportive constituency?

    b. How are IR findings published? (ie. meetings, publications)

13. To what extent are senior administrators held accountable for decisions and by whom in your college situation?

14. In your opinion, would IR activities assist in the decision-making process? (how? and how are issues of confidentiality handled?)

15. Describe ways that IR could be strengthened in your college. (ie. personnel, equipment, attitude)

16. If your college could maintain a consistent, easily accessed data base, in your opinion would administrators in your college use the basic data in a variety of decision situations?

17. Since privately funded colleges must raise substantial sums of money annually, how significant is fund raising or public relations oriented IR when compared with other kinds of IR?

18. Do you expect that similarly collected data across all Canadian Bible colleges would benefit the problem solving and planning functions within individual colleges if such data were made available?

19. Over the next 5 years, what challenges do you expect to face in administering your institution?

20. Are there other thoughts that you have about decision-making in Bible colleges or practices that you engage in which you would be willing to express?

APPENDIX D

CANADIAN BIBLE COLLEGES PARTICIPATING IN THE INTERVIEW

Canadian Bible Colleges Participating in the Interview

Name of College	Province
Atlantic Baptist College	New Brunswick
Briercrest Bible College	Saskatchewan
Central Pentecostal College	Saskatchewan
Key-Way-Tin Bible Institute	Alberta
Mountain View Bible College	Alberta
Nipawin Bible Institute	Saskatchewan
North American Baptist College	Alberta
Northwest Baptist Theological College	British Columbia
Ontario Bible College	Ontario
Steinbach Bible Institute	Manitoba
Western Pentecostal Bible College	British Columbia
Winkler Bible Institute	Manitoba

APPENDIX E

STATISTICAL TABLES

Table 1

Differences in Perception of Extent of Involvement and Degree of Importance of Operating Reports by Age of Institution

Research Activities	Mean Score Group 1 Before 1950	Group 2 1950 & Later	t-Value	Probability
Grades/Performance (I)	3.37	3.86	2.28	0.03
FullTime/Part Time (E)	2.44	1.57	2.24	0.03
Payroll Records (I)	3.49	2.67	2.77	0.008

(E) Refers to Extent of Involvement responses.
(I) Refers to Degree of Importance responses.

Table 2

Differences in Perception of Extent of Involvement and Degree of Importance of Analytical Reports by Age of Institution

Research Activities	Mean Score Group 1 Before 1950	Group 2 1950 & Later	t-Value	Probability
Program Cost Analyses (E)	2.51	1.57	2.44	0.02
Marketing Strategies (E)	2.08	1.14	2.50	0.02
Marketing Strategies (I)	3.03	2.20	2.08	0.04
Perception of External Constituency (E)	2.68	1.86	2.12	0.04
Analyses of Student Characteristics (I)	3.18	2.33	3.24	0.002
Publication Productivity of Faculty (I)	2.37	1.67	2.43	0.02
Preparation for Accreditation (E)	2.58	1.43	2.16	0.04

(E) Refers to Extent of Involvement responses.

(1) Refers to Degree of Importance responses.

Table 3

Differences in Perception of Extent of Involvement and Degree of Importance of Forecast Reports by Age of Institution

Research Activities	Mean Score Group 1 Before 1950	Mean Score Group 2 1950 & Later	t-Value	Probability
Development of Budget Allocation Formulas (E)	2.30	1.29	2.54	0.02
Program Enrollment Prediction (E)	2.42	1.14	3.39	0.002
Program Enrollment Prediction (I)	3.13	2.60	2.11	0.04
Long Range Planning (I)	3.37	2.86	2.38	0.02

(E) Refers to Extent of Involvement responses.
(I) Refers to Degree of Importance responses.

Table 4

Differences in Perception of Involvement and Degree of Importance of Operating Reports by Governance of Institution

Research Activities	Mean Score Group 1 Denominat'l	Group 2 Interdenom'tl	t-Value	Probability
Grades/Performance (I)	3.32	3.71	2.34	0.02
Class Lists (E)	2.94	3.50	2.49	0.02
Class Lists (I)	3.10	3.57	2.71	0.01
Practical Field Work (E)	2.74	3.50	2.75	0.009
Practical Field Word (I)	3.10	3.57	2.35	0.02
Payroll Records (I)	3.23	3.75	2.23	0.03
Comparative Studies of other Institutions (E)	1.71	2.36	2.42	0.02
Maintain Equipment Inventory (E)	2.03	2.54	2.11	0.04

(E) Refers to Extent of Involvement responses.
(I) Refers to Degree of Importance responses.

Table 5

Differences in Perception of Extent of Involvement and Degree of Importance of Analytical Reports by Governance of Institution

Research Activity	Mean Score Group 1 Denominat'l	Group 2 Interdenom'tl	t-Value	Probability
Individual Teaching Performance Evaluation (E)	2.45	2.93	2.04	0.05

(E) Refers to Extent of Involvement responses.

Table 6

Differences in Perception of Extent of Involvement and Degree of Importance of Operating Reports by Size of Institution

Research Activity	Mean Score Grp 1 <100	Grp 2 100-199	Grp 3 200-299	Grp 4 >299	F-Ratio	Prob	Pairs Sign Diff
Grades Performance (I)	3.47	3.60	2.80	3.50	3.18	0.03	1,2>3
Maintain Space Inventory (E)	1.84	1.93	2.20	3.00	2.41	0.08	4>1
Maintain Equipment Inventory (E)	2.17	1.87	2.40	2.83	2.82	0.05	4>2

(E) Refers to Extent of Involvement responses.

(I) Refers to Degree of Importance responses.

Table 7

Differences in Perception of Extent of Involvement and Degree of Importance of Analytical Reports by Size of Institution

Research Activity	Mean Score Grp 1 <100	Grp 2 100-199	Grp 3 200-299	Grp 4 >299	F-Ratio	Prob	Pairs Sign Diff
Donor Analyses (E)	2.00	2.40	2.20	3.33	3.22	0.03	4>1
Marketing Strategies (E)	1.47	2.07	2.00	300	5.13	0.004	4>1
Comm'tns, Forms and Procedures (I)	3.06	2.87	2.00	2.83	3,65	0.02	1,2>3
Publication Productivity of Faculty (E)	1.12	1.27	2.00	2.00	4.79	0.006	3,4>1
Program Enrollment Prediction (E)	1.84	2.27	2.40	3.17	3.02	0.04	4>1

(E) Refers to Extent of Involvement responses.

(I) Refers to Degree of Importance responses.

Table 8

Differences of Perception of Extent of Involvement and Degree of Importance of Operating Reports by Location of Institution

Research Activity	Mean Score Grp 1 City	Grp 2 Town	Grp 3 Rural	F-Ratio	Prob	Pairs Sign Diff
Academic Calendar (E)	3.53	3.50	2.81	3.89	0.03	1,2>3
Timetable (E)	3.59	3.42	2.94	3.51	0.04	1>3
Payroll Records (E)	3.47	3.50	2.80	3.19	0.05	1>3

(E) Refers to Extent of Involvement responses.

Table 9

Differences in Perception of Extent of Involvement and Degree of Importance of Anaiytical Reports by Location of Institution

Research Activity	Mean Score Grp 1 City	Grp 2 Town	Grp 3 Rural	F-Ratio	Prob	Pairs Sign Diff
Budget Process (E)	3.29	3.25	2.53	5.21	0.009	1,2>3
Perception of External Constituency (E)	2.35	3.25	2.20	5.28	0.009	2>1,3
Publication Productivity of Faculty (E)	1.71	1.42	1.00	4.70	0.01	1>3
Publication Productivity of Faculty (I)	2.53	2.50	1.80	6.68	0.003	1,2>3

(E) Refers to Extent of Involvement responses.

(I) Refers to Degree of Importance responses.

Table 10

Differences in Perception of Extent of Involvement and Degree of Importance of Forecast Reports by Location of Institution

Research Activity	Mean Score Grp 1 City	Grp 2 Town	Grp 3 Rural	F-Ratio	Prob	Pairs Sign Diff
Funding Planning (E)	2.82	2.75	2.07	3.90	0.03	1>3
Program Enrollment Prediction (E)	2.76	2.25	1.63	6.42	0.004	1>3
Enrollment Planning (E)	2.82	2.67	2.06	3.19	0.05	1>3
Long-Range Planning (E)	2.82	3.00	2.19	4.95	0.01	1,2>3
Course Demand (I)	2.65	3.08	2.53	2.72	0.08	2>3

(E) Refers to Extent of Involvement responses.
(I) Refers to Degree of Importance responses.

APPENDIX F

LETTER OF INVITATION TO PARTICIPATE

University of Alberta
Edmonton

Department of Educational Administration
Faculty of Education

Canada T6G 2G5

7-104 Education Building North, Telephone (403) 432-5241

March 25, 1986

Dear President

This is a request for your participation in a survey of Canadian Bible colleges. The survey was designed to collect data that would provide insight into the status of institutional research in Canadian Bible colleges. All Canadian Bible colleges are included in this survey.

These colleges are not well known in the higher education systems of Canada. Greater knowledge could contribute to improved understanding for these institutions. Recent studies of these colleges have focussed upon environmental relations (Weinhauer, PhD. 1979), credit transfer arrangements (Gazard, PhD. 1980), governance (Rose, PhD. 1981) and music curricula (Thiessen, PhD. 1985).

Despite much interest and activity in institutional research in institutions of higher education and the strong support given to it in the literature, little is known as to the current status of institutional research in Canadian Bible colleges. According to some authorities, a key factor in effective administration is the ability of the college president to ask the right questions and to find the right answers. Institutional research activities have the potential to supply the relevant data to identify such questions and to aid in developing appropriate decisions.

A questionnaire has been enclosed together with some definitions designed to clarify the meaning of selected terms. Please complete the questionnaire personally or in consultation with other staff members. If you encounter questions where additional information would help to interpret your response, please add comments and feel free to use the reverse side of any pages.

Please return the questionnaire as soon as possible, preferrably not later than April 22, 1986. Your responses will be treated confidentially. Thank you for your participation in this study.

Sincerely,

Lon Sawchenko

L.P. Sawchenko, PhD. student,
President-elect, Millar Memorial Bible Institute

Enclosures (3)